

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Cami Thompson Examiner #: 79244 Date: 6/2/05
Art Unit: 1774 Phone Number: 571-272-1530 Serial Number: 10/822,446
Mail Box and Bldg/Room Location: Dem 10D28 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Opto-electroactive device comprising metalloce

Inventors (please provide full names): Larry Neil Lewis; Joseph John Shiang;
Aharon Yakimov; Jie Liu; Sergei Kniajancki

Earliest Priority Filing Date: 4/12/2004

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please do a search on claims 1-24.

Shank

SCIENTIFIC REFERENCE B
Sci & Tech Inf. Ctr

JUL 06 2005

Pat. & T.M. Office

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>T. Sha</u>	NA Sequence (#) _____	STN <u>677.11</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>1</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>7/19/05</u>	Bibliographic _____	Dr.Link _____
Date Completed: <u>7/20/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>90</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>120</u>	Other _____	Other (specify) _____



STIC Search Report

EIC 1700

STIC Database Tracking Number: 158382

TO: Camie Thompson

Location: REM 10D28

Art Unit : 1774

July 20, 2005

Case Serial Number: 10/822446

From: Usha Shrestha

Location: EIC 1700

REMSEN 4B28

Phone: 571/272-3519

usha.shrestha@uspto.gov

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
- Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

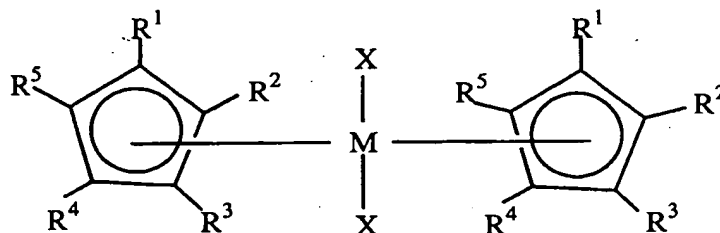
- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

CLAIMS:

1. An opto-electroactive device comprising a metallocene of the formula

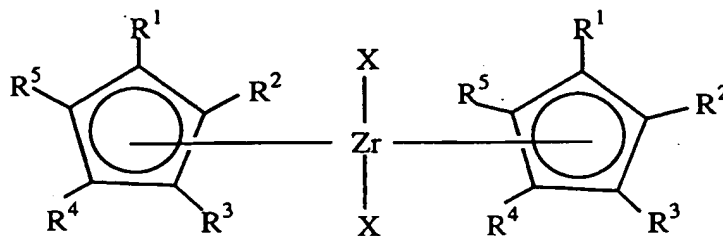


wherein M is zirconium or hafnium; X is halogen and R^1 - R^5 are each independently hydrogen, aryl, alkyl, halogen or $-\text{Si}(\text{R}^6)_3$; or wherein at least two adjacent R substituents on at least one ring are joined to form a fused ring, which may be unsubstituted or substituted with aryl, alkyl, halogen or $-\text{Si}(\text{R}^6)_3$; or wherein the R^1 substituents on each ring are joined via a bridging ansa group, and

wherein R^6 is an alkyl group, a substituted alkyl group, an aryl group or a substituted aryl group.

2. The opto-electroactive device of claim 1, wherein X is fluoro, chloro or bromo, and R^1 - R^5 are each hydrogen.
3. The opto-electroactive device of claim 1, wherein X is fluoro, chloro or bromo, and the R^1 substituents on each ring are joined to link the rings via a bridging ansa group, wherein the bridging ansa group is $-\text{E}(\text{R}^6)_2$ wherein E is carbon, silicon, or germanium, and R^6 is selected from the group consisting of alkyl, substituted alkyl, methyl, aryl and substituted aryl.
4. The opto-electroactive device of claim 3, wherein X is chloro and E is silicon.
5. The opto-electroactive device of claim 1, which comprises a zirconocene.
6. The opto-electroactive device of claim 5, wherein the zirconocene has a HOMO value of less than or equal to minus 6 electron volts.

7. The opto-electroactive device of claim 5, wherein the zirconocene is phosphorescent.
8. The opto-electroactive device of claim 1, which comprises a hafnocene.
9. The opto-electroactive device of claim 1, which is an electroluminescent device, an LED, an OLED, a photovoltaic device, a photoconductor, a photodetector, or in a chemical or biochemical sensor.
10. The opto-electroactive device of claim 1, wherein the metallocene is present in a light-emitting layer and the device emits light in the wavelength range of about 300 nm to about 1200 nm; or wherein the metallocene is present in a hole-blocking layer.
11. The opto-electroactive device of claim 1, wherein the metallocene is present in a light-absorbing layer and the device absorbs light in the wavelength range of about 300 nm to about 1200 nm.
12. The opto-electroactive device of claim 1, wherein the metallocene is present in the form of a composite comprising at least one metallocene and at least one polymeric or non-polymeric conductor.
13. The opto-electroactive device of claim 12, wherein the polymeric conductor comprises at least one of poly(9-vinylcarbazole) or poly(phenylsilane).
14. The opto-electroactive device of claim 12, wherein the non-polymeric conductor at least one of an aryl-substituted oxadiazole, an aryl-substituted phenanthroline, a benzoxazole, a benzthiazole, an aryl-substituted triazole, or 3-(4'-tert-butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole.
15. An opto-electroactive device comprising: (a) an anode; (b) a cathode; and (c) a layer comprising a zirconocene of the formula



wherein X is halogen and R¹-R⁵ are each independently hydrogen, aryl, alkyl, halogen or -Si(R⁶)₃; or wherein at least two adjacent R substituents on at least one ring are joined to form a fused ring, which may be unsubstituted or substituted with aryl, alkyl, halogen or -Si(R⁶)₃ wherein R⁶ is an alkyl group, a substituted alkyl group, an aryl group or a substituted aryl group; or wherein the R¹ substituents on each ring are joined to link the rings via a bridging ansa group; and

wherein the layer (c) is a light-emitting layer and the device emits light in the wavelength range of about 300 nm to about 1200 nm; or wherein the layer (c) is a light-absorbing layer and the device absorbs light in the wavelength range of about 300 nm to about 1200 nm; or wherein the layer (c) is a hole-blocking layer.

16. The opto-electroactive device of claim 15, wherein X is fluoro, chloro or bromo, and R¹-R⁵ are each hydrogen.

17. The opto-electroactive device of claim 15, wherein X is fluoro, chloro or bromo, and the R¹ substituents on each ring are joined to link the rings via a bridging ansa group, wherein the bridging ansa group is -Si(R⁶)₂ wherein R⁶ is selected from the group consisting of alkyl, substituted alkyl, methyl, aryl and substituted aryl.

18. The opto-electroactive device of claim 15, which is an electroluminescent device, an LED, an OLED, a photovoltaic device, a photoconductor, a photodetector, or in a chemical or biochemical sensor.

19. The opto-electroactive device of claim 15, wherein the zirconocene is phosphorescent.

20. The opto-electroactive device of claim 15, wherein the zirconocene is present in the form of a composite comprising at least one zirconocene and at least one polymeric or non-polymeric conductor.

21. The opto-electroactive device of claim 20, wherein the polymeric conductor comprises at least one of poly(9-vinylcarbazole) or poly(phenylsilane).

22. The opto-electroactive device of claim 20, wherein the non-polymeric conductor comprises at least one of an aryl-substituted oxadiazole, an aryl-substituted phenanthroline, a benzoxazole, a benzthiazole, an aryl-substituted triazole, or 3-(4'-tert-butylphenyl)-4-phenyl-5-(4''-biphenyl)-1,2,4-triazole.

23. A method for making an opto-electroactive device comprising a zirconocene of claim 1, which comprises the step of applying the metallocene by vacuum deposition or from solution.

24. A method for making an opto-electroactive device comprising a zirconocene of claim 15, which comprises the step of applying the zirconocene by vacuum deposition or from solution.

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FILE 'REGISTRY' ENTERED AT 11:02:59 ON 20 JUL 2005

=> d his ful

FILE 'LREGISTRY' ENTERED AT 09:08:14 ON 20 JUL 2005

L1 STR

FILE 'REGISTRY' ENTERED AT 09:09:36 ON 20 JUL 2005

L2 2 SEA SSS SAM L1

D SCAN

L3 STR

L4 SCR 1846

L5 14 SEA SSS SAM L3 AND L4

L6 STR L3

L7 0 SEA SSS SAM L6 AND L4

D QUE STAT L7

L8 STR L6

L9 SCR 1984

L10 50 SEA SSS SAM L8 AND L4 AND L9

L11 7804 SEA SSS FUL L8 AND L4 AND L9

SAV L11 THO446/A

FILE 'HCAPLUS' ENTERED AT 10:00:09 ON 20 JUL 2005

L12 10828 SEA ABB=ON PLU=ON L11

L13 2 SEA ABB=ON PLU=ON L12 (L) DEV/RL

D SCAN

L14 60 SEA ABB=ON PLU=ON L12 AND DEV/RL

D FHITSTR 1-3

L15 7 SEA ABB=ON PLU=ON L14 AND CONDUCT?

D SCAN HIT

L16 10 SEA ABB=ON PLU=ON L14 AND ?CONDUCT?

L17 88 SEA ABB=ON PLU=ON L12 AND ?POLYMER? (2A) CONDUCT?

L18 5 SEA ABB=ON PLU=ON L17 AND DEV/RL

D SCAN HIT

L19 60 SEA ABB=ON PLU=ON L14 OR L15 OR L16 OR L18

FILE 'REGISTRY' ENTERED AT 10:26:15 ON 20 JUL 2005

L20 1 SEA ABB=ON PLU=ON 9-VINYLCARBAZOLE/CN

D RN

L21 1 SEA ABB=ON PLU=ON 1484-13-5/RN

L22 1 SEA ABB=ON PLU=ON PHENYLSILANE/CN

D RN

L23 1 SEA ABB=ON PLU=ON 694-53-1/RN

L24 2 SEA ABB=ON PLU=ON L21 OR L23

L25 1 SEA ABB=ON PLU=ON OXADIAZOLE/CN

D RN

L26 1 SEA ABB=ON PLU=ON 11120-54-0/RN

L27 1 SEA ABB=ON PLU=ON PHENANTHROLINE/CN

D RN

L28 1 SEA ABB=ON PLU=ON 12678-01-2/RN

L29 1 SEA ABB=ON PLU=ON BENZOXAZOLE/CN

D RN

L30 1 SEA ABB=ON PLU=ON 273-53-0/RN

L31 0 SEA ABB=ON PLU=ON BENZTHIAZOLE/CN

E BENZTHIAZOLE/CN

L32 1 SEA ABB=ON PLU=ON TRIAZOLE/CN

D RN

L33 1 SEA ABB=ON PLU=ON 37306-44-8/RN

L34 4 SEA ABB=ON PLU=ON L26 OR L28 OR L30 OR L33

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L35 1979 SEA ABB=ON PLU=ON L24

L36 2011 SEA ABB=ON PLU=ON L34

L37 46 SEA ABB=ON PLU=ON L12 AND (L35 OR L36)
D FHITSTR

L38 0 SEA ABB=ON PLU=ON L37 AND DEV/RL

L39 46 SEA ABB=ON PLU=ON L37 NOT L19

L40 0 SEA ABB=ON PLU=ON L39 AND DEVIC?

L41 2 SEA ABB=ON PLU=ON L39 AND (?LUMINES? OR ?EMIT? OR EL
OR E(W)L OR LED OR OLED OR OEL OR LUMINES? OR PHOTO?)
D SCAN HIT

L42 3 SEA ABB=ON PLU=ON L19 AND (?LUMINES? OR ?EMIT? OR EL
OR E(W)L OR LED OR OLED OR OEL OR LUMINES? OR PHOTO?)
D L42 IBIB ABS HITSTR
D L19 IBIB ABS HITSTR

L43 62 SEA ABB=ON PLU=ON L19 OR L41 OR L42

L44 22 SEA ABB=ON PLU=ON L43 AND ?ELECTRO?

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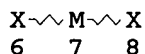
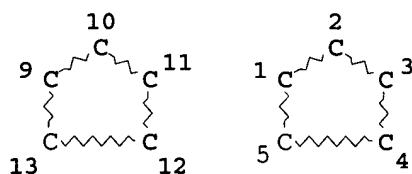
FILE LREGISTRY
LREGISTRY IS A STATIC LEARNING FILE

FILE REGISTRY

FILE HCAPLUS

=> d que 112

L4 SCR 1846
L8 STR



NODE ATTRIBUTES:
NSPEC IS R AT 7
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

L9 SCR 1984
 L11 7804 SEA FILE=REGISTRY SSS FUL L8 AND L4 AND L9
 L12 10828 SEA FILE=HCAPLUS ABB=ON PLU=ON L11

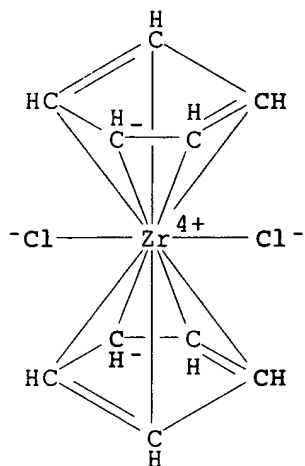
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=> d 143 1-62 ibib abs hitstr hitind

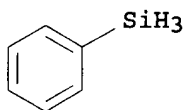
L43 ANSWER 1 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:360078 HCAPLUS
 TITLE: Sigma-Bond Metathesis Reactions of Zirconocene
 Alkyl Cations with Phenylsilane
 AUTHOR(S): Wu, Fan; Jordan, Richard F.
 CORPORATE SOURCE: Department of Chemistry, The University of
 Chicago, Chicago, IL, 60637, USA
 SOURCE: Organometallics (2005), 24(11), 2688-2697
 CODEN: ORGN7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Zirconocene Me cations [(C5R5)2ZrMe(ClC6D5)][B(C6F5)4] (C5R5 = C5H5 (1a), C5H4Me (1b)) react with PhSiH3 in the dark to yield [{(C5R5)2Zr(μ -H)}2][B(C6F5)4]2 (5a,b) and a mixture of PhxMeyHzSi products. The reaction proceeds by initial Zr-C/Si-H σ -bond metathesis via a four-center transition state in which Si is β to Zr. In the presence of light, significant amts. of [{(C5R5)2Zr(μ -Cl)}2][B(C6F5)4]2 (4a,b) are formed by **photochem.** reaction of (C5R5)2ZrH+ species with the chlorobenzene solvent. The azazirconacycle [rac-(EBI)Zr{ η 2(C,N)-CH2CHMe(6-phenyl-2-pyridyl)}][B(C6F5)4] (2, EBI = 1,2-ethylene-bis-indenyl) does not react with PhSiH3 at 23°. However at 85°, 2 deinserts propene to afford the η 2-pyridyl complex [rac-(EBI)Zr{ η 2(C,N)-(6-phenyl-2-pyridyl)}][B(C6F5)4] (6), which is catalytically isomerized to [rac-(EBI)Zr{ η 2(C,N)-2-(2-pyridyl)phenyl}][B(C6F5)4] (7) by PhSiH3. The key step in this process is Zr-C/Si-H σ -bond metathesis of 6 with PhSiH3 via a transition state in which Si is α to Zr. The less crowded azazirconacycle [Cp2Zr{ η 2(C,N)-CH2CHMe(6-methyl-2-pyridyl)}][B(C6F5)4] (3) reacts with PhSiH3 directly to afford [{Cp2Zr(SiPhH2)}2][B(C6F5)4]2 (8) via a transition state in which Si is α to Zr. Steric factors may play a role in determining the selectivity of these reactions. The structures of 4a, 4b, and 7 were established by x-ray crystallog.

IT 1291-32-3P, Dichlorozirconocene
 (equilibrium with acetonitrile chloro zirconocene complex; preparation and structure of zirconium complexes obtained via sigma-bond metathesis reactions of zirconocene alkyl cations with phenylsilane)
 RN 1291-32-3 HCAPLUS
 CN Zirconium, dichlorobis(η 5-2,4-cyclopentadien-1-yl)- (9CI) (CA INDEX NAME)



IT 694-53-1, Phenylsilane
 (preparation and structure of zirconium complexes obtained via
 sigma-bond metathesis reactions of zirconocene alkyl cations
 with phenylsilane)
 RN 694-53-1 HCAPLUS
 CN Silane, phenyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



CC 29-10 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 22, 75
 IT 1291-32-3P, Dichlorozirconocene 855476-72-1P
 (equilibrium with acetonitrile chloro zirconocene complex; preparation
 and structure of zirconium complexes obtained via sigma-bond
 metathesis reactions of zirconocene alkyl cations with
 phenylsilane)
 IT 694-53-1, Phenylsilane
 (preparation and structure of zirconium complexes obtained via
 sigma-bond metathesis reactions of zirconocene alkyl cations
 with phenylsilane)
 REFERENCE COUNT: 67 THERE ARE 67 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 2 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:102722 HCAPLUS

DOCUMENT NUMBER: 142:344039

TITLE: Mechanism of redox transformation of
 titanocene dichloride centers immobilized
 inside a polypyrrole matrix - EQCM and XPS
 evidences

AUTHOR(S): Skompska, Magdalena; Vorotyntsev, Mikhail A.;
 Goux, Jerome; Moise, Claude; Heinz, Olivier;
 Cohen, Yaron S.; Levi, Mikhael D.; Gofer,
 Yosef; Salitra, Grigory; Aurbach, Doron

CORPORATE SOURCE: Department of Chemistry, Warsaw University,
Warsaw, 02093, Pol.

SOURCE: Electrochimica Acta (2005), 50(7-8), 1635-1641
CODEN: ELCAAV; ISSN: 0013-4686

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

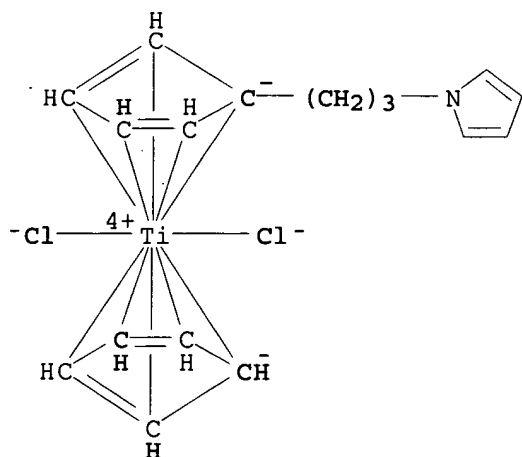
LANGUAGE: English

AB The authors report electrochem. quartz crystal microbalance (EQCM) results for electrodeposition of titanocene derivatized polypyrrole p(Tc3Py) films and redox transformation of polypyrrole matrix and titanocene centers immobilized in the film. Films of p(Tc3Py), Tc3Py = Tc(CH₂)₃NC₄H₄ (Tc = Cl₂TiCpCp', Cp = C₅H₅, Cp' = C₅H₄) were obtained from MeCN solns. of monomer on a Pt disk or thin Au layer evaporated on 10 MHz quartz crystals. Polymerization efficiency, derived from the slope of the change of resonant frequency as a function of the deposition charge ranged from 54% to 75%. A gradual loss of redox activity of Tc centers during consecutive redox cycles of p(Tc3Py) film in TBAFP6/THF solns. is discussed in terms of elimination of Cl⁻ ions from the Tc complex and accommodation of solvent mol. The EQCM data are supported by XPS results. The preliminary studies performed in TEACl in MeCN solution showed that the presence of Cl⁻ ions in the solution markedly inhibits the loss of redox activity of Tc centers immobilized in the polymer matrix.

IT 393564-45-9
(electrochem. polymerization on gold or platinum in MeCN containing Bu₄NPF₆)

RN 393564-45-9 HCAPLUS

CN Titanium, dichloro(η⁵-2,4-cyclopentadien-1-yl)[(1,2,3,4,5-η)-1-[3-(1H-pyrrol-1-yl)propyl]-2,4-cyclopentadien-1-yl]-
(9CI) (CA INDEX NAME)



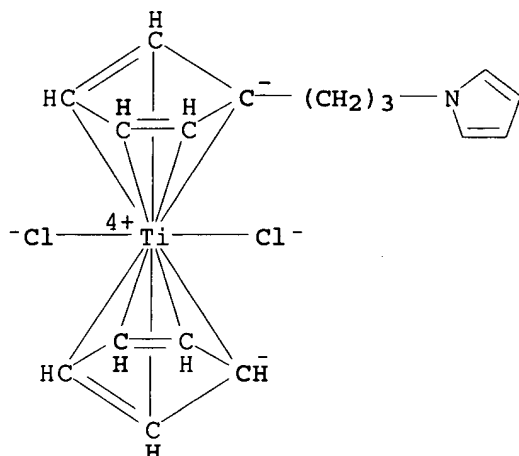
IT 848466-73-9P
(electrochem. preparation and cyclic voltammetry in THF containing Bu₄NPF₆ or MeCN containing Et₄NCl)

RN 848466-73-9 HCAPLUS

CN Titanium, dichloro(η⁵-2,4-cyclopentadien-1-yl)[(1,2,3,4,5-η)-1-[3-(1H-pyrrol-1-yl)propyl]-2,4-cyclopentadien-1-yl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 393564-45-9
 CMF C17 H19 Cl2 N Ti
 CCI CCS



CC 72-2 (Electrochemistry)
 Section cross-reference(s): 29, 35
 IT **Conducting polymers**
 (polypyrroles; mechanism of redox transformation of titanocene dichloride centers immobilized inside a polypyrrole matrix - EQCM and XPS evidences)
 IT 393564-45-9
 (electrochem. polymerization on gold or platinum in MeCN containing Bu₄NPF₆)
 IT 848466-73-9P
 (electrochem. preparation and cyclic voltammetry in THF containing Bu₄NPF₆ or MeCN containing Et₄NCl)
 REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 3 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:9358 HCAPLUS
 DOCUMENT NUMBER: 142:125088
 TITLE: Organic thin film transistor comprising multi-layered gate insulator
 INVENTOR(S): Lee, Sang Yoon; Park, Jong Jin; Lyu, Yi Yeol; Byun, Young Hun; Koo, Bon Won; Kang, In Nam
 PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea
 SOURCE: Eur. Pat. Appl., 18 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1494298	A2	20050105	EP 2004-253979	2004

0701

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
EE, HU, PL, SK, HR

US 2005001210 A1 20050106 US 2004-769816

2004

0203

JP 2005026698 A2 20050127 JP 2004-197515

2004

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PRIORITY APPLN. INFO.:

KR 2003-44799

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2003

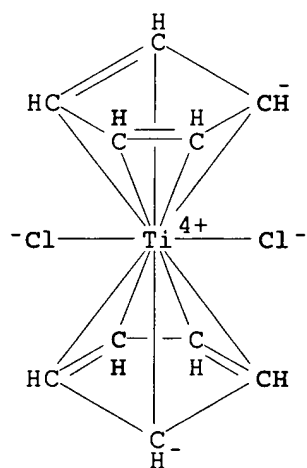
0703

AB Disclosed is an organic thin film transistor (OTFT) comprising a gate electrode, a gate insulating film, an organic active layer and a source/drain electrode, or a gate electrode, a gate insulating film, a source/drain electrode and an organic active layer, sequentially formed on a substrate, characterized in that the gate insulating film is a multi-layered insulator comprising a 1st layer of a high dielec. material and a 2nd layer of an insulating organic polymer compatible with the organic active layer, the 2nd layer being positioned directly under the organic active layer. The OTFT of the present invention shows low threshold and driving voltages, high charge mobility, and high Ion/Ioff, and it can be prepared by a wet process.

IT 1271-19-8, Bis(cyclopentadienyl)titanium dichloride
11136-36-0, Bis(pentamethylcyclopentadienyl)titanium
dichloride 12130-65-3 35625-75-3,
Bis(ethylcy-clopentadienyl)titanium dichloride 79269-71-9
, Bis(tert-butylcyclopentadienyl)titanium dichloride
(vapor deposition precursor; organic thin film transistor
comprising multi-layered gate insulator)

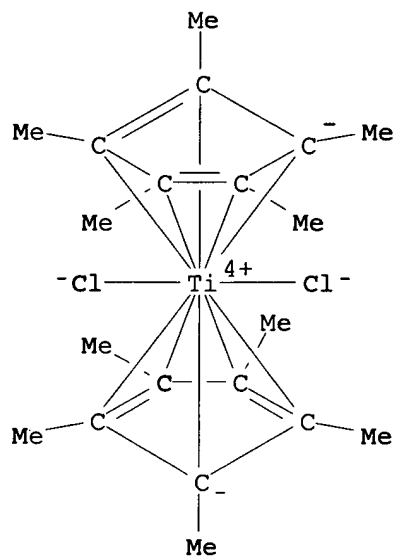
RN 1271-19-8 HCAPLUS

CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA
INDEX NAME)



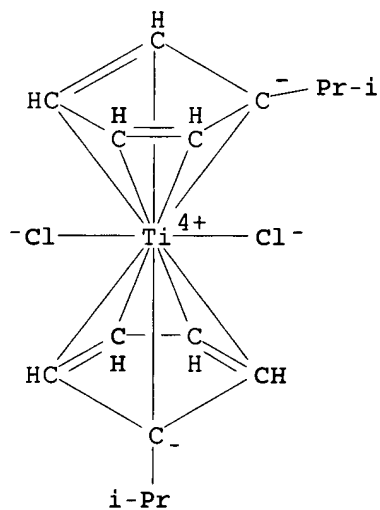
RN 11136-36-0 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



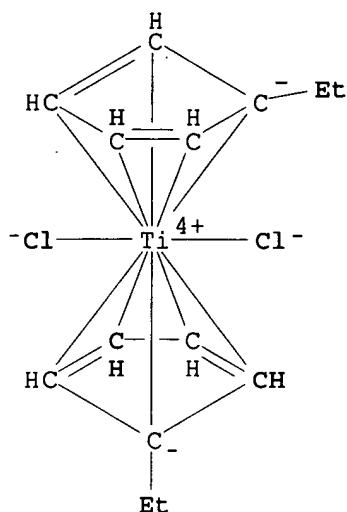
RN 12130-65-3 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5- η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



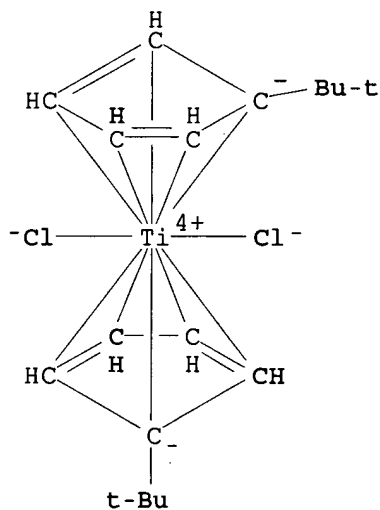
RN 35625-75-3 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5- η)-1-ethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



RN 79269-71-9 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5-η)-1-(1,1-dimethylethyl)-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



IC ICM H01L051-20

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 38

IT Electric contacts

Gate contacts

Glass substrates

Semiconductor device fabrication

(organic thin film transistor comprising multi-layered gate insulator)

IT Conducting polymers

(polypyrroles, organic active layer; organic thin film transistor comprising multi-layered gate insulator)

IT Conducting polymers

(polythiophenes, organic active layer; organic thin film transistor)

comprising multi-layered gate insulator)

IT 546-68-9, Titanium(IV) isopropoxide 555-31-7, Aluminum isopropoxide 555-75-9, Aluminum ethoxide 556-91-2 1070-10-6 1071-76-7 1270-98-0, Cyclopentadienyltitanium trichloride 1271-19-8, Bis(cyclopentadienyl)titanium dichloride 2081-12-1 2171-98-4, Zirconium(IV) isopropoxide 2171-99-5, Hafnium(IV) isopropoxide 2172-02-3 2269-22-9 3085-30-1, Aluminum n-butoxide 3087-36-3, Titanium(IV) ethoxide 3087-39-6 3275-24-9, Tetrakis(dimethylamido)titanium(IV) 4419-47-0, Tetrakis(diethylamido)titanium(IV) 5593-70-4, Titanium(IV) n-butoxide 7446-31-3, Zirconium sulfate, tetrahydrate 11136-36-0, Bis(pentamethylcyclopentadienyl)titanium dichloride 12129-06-5, Pentamethylcyclopentadienyltitanium trichloride 12129-51-0, Titanocene dicarbonyl 12130-65-3 13428-80-3, Hafnium(IV) ethoxide 13801-49-5, Tetrakis(diethylamino)zirconium 13963-57-0, Aluminum acetyl acetate 14024-64-7 14319-08-5, Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)aluminum 15306-18-0, Aluminum hexafluoroacetyl acetate 15719-81-0, DiammineTetrachlorotitanium 17475-67-1 17499-68-2 17501-44-9, Zirconium(IV) acetyl acetate 17927-72-9 18039-90-2 18267-08-8, Zirconium(IV) ethoxide 18865-74-2 19530-02-0 19756-04-8, Tetrakis(dimethylamino)zirconium 19782-68-4, Tetrakis(dimethylamino)hafnium 20717-86-6, Chlorotitanium triisopropoxide 22411-22-9 23519-77-9, Zirconium(IV) n-propoxide 31011-57-1 35625-75-3, Bis(ethylcyclopentadienyl)titanium dichloride 79269-71-9, Bis(tert-butylcyclopentadienyl)titanium dichloride 79376-38-8 86470-50-0 107333-47-1 123927-75-3, Pentamethylcyclopentadienyltitanium trimethoxide 144665-26-9 149391-23-1 152248-67-4 181418-64-4, Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)titanium 363149-46-6 (vapor deposition precursor; organic thin film transistor comprising multi-layered gate insulator)

L43 ANSWER 4 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:742018 HCAPLUS

DOCUMENT NUMBER: 142:164444

TITLE: Reactions of solute species at an electrode modified with titanocene functionalized polypyrrole film: ferrocene and titanocene dichloride

AUTHOR(S): Vorotyntsev, Mikhail A.; Graczyk, Magdalena; Lisowska-Oleksiak, Anna; Goux, Jerome; Moise, Claude

CORPORATE SOURCE: LSEO-UMR 5188 CNRS, Universite de Bourgogne, Dijon, Fr.

SOURCE: Journal of Solid State Electrochemistry (2004), 8(10), 818-827

CODEN: JSSEFS; ISSN: 1432-8488

PUBLISHER: Springer GmbH

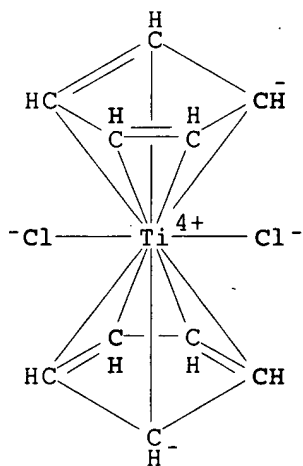
DOCUMENT TYPE: Journal

LANGUAGE: English

AB We have studied for the first time the ability of a **conducting polymer** film, p(Tc3Py), representing a polypyrrole matrix with covalently attached titanocene dichloride (TcCl₂) centers, to serve as an intermediary for the electron charge transport between the electrode and the reaction sites of solute reactants. The standard potential of the first of these electroactive species, ferrocene (Fc), is in the range where

the polymer matrix is in its slightly oxidized state so that solute Fc species give a reversible response at the surface of this modified electrode. Another solute reactant, TcCl_2 , was studied in solns. in which it demonstrates a (quasi)reversible behavior at bare electrode surfaces, $\text{THF}+\text{TBAPF}_6$ and $\text{AN}+\text{TEACl}$. The standard redox potential of this species belongs to the range of the electroactivity of immobilized TcCl_2 centers (where the matrix is in its non-conducting state) so that the electron charge has to be transported via stepwise redox reactions between neighboring centers inside the film. The combination, solute reactant+film, results in a greater CV current compared to the response of the film in background solution or of the solute species at the bare electrode surface. This current for THF solution even exceeds the sum of sep. currents for the film and the reactant. This finding is attributed to a catalytic effect of solute species as redox intermediators for the transformation of immobilized electroactive centers leading to a greater degree of the film reduction. The presence of solute TcCl_2 species results in a much greater stability of immobilized centers (compared to the corresponding reactant-free solution), both in the course of CV with the passage of the range of their response and in expts. with the film holding at the potential within this range. This holding leads to an almost constant current related to the reaction of solute species at the film/solution interface. Our estimate shows that immobilized centers undergo above 10,000 reversible transformations (without an observed tendency to the degradation) to ensure the passage of this current. The conclusion has been drawn that immobilized TcCl_2 centers are able to serve as sufficiently stable redox intermediators for the electron charge transport across the film, a prerequisite for the catalytic applications of such films.

- IT 1271-19-8, Titanocene dichloride
 (reactions of solute species at electrode modified with
 titanocene functionalized polypyrrole film)
- RN 1271-19-8 HCAPLUS
- CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA
 INDEX NAME)



- CC 72-2 (Electrochemistry)
 Section cross-reference(s): 29, 67

ST **conducting polymer** modified electrode reaction
kinetics redox intermediate
IT Chemically modified electrodes
Conducting polymers
Electron transfer kinetics
Electron transport
Films
(reactions of solute species at electrode modified with
titanocene functionalized polypyrrole film)
IT **1271-19-8, Titanocene dichloride**
(reactions of solute species at electrode modified with
titanocene functionalized polypyrrole film)
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 5 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:363179 HCAPLUS

DOCUMENT NUMBER: 141:163764

TITLE: Influence of chloride anions on the
electrodeposition and electroactivity of the
polymer matrix in polypyrrole,
poly(N-methylpyrrole) and polypyrrole
derivatives functionalized by titanocene
centers, in dry non-aqueous solutions

AUTHOR(S): Skompska, Magdalena; Vorotyntsev, Mikhail A.

CORPORATE SOURCE: Department of Chemistry, Warsaw University,
Warsaw, 02 093, Pol.

SOURCE: Journal of Solid State Electrochemistry
(2004), 8(6), 360-368

CODEN: JSSEFS; ISSN: 1432-8488

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

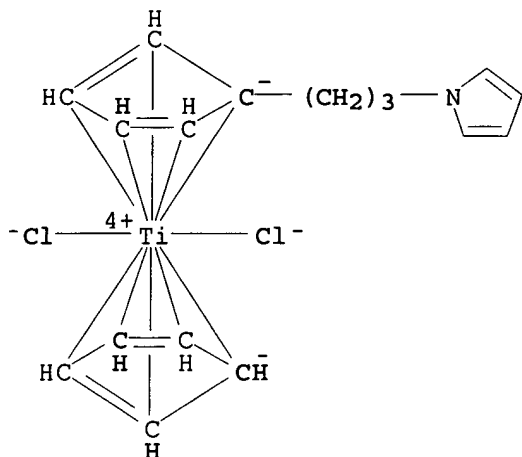
AB We report electrochem. studies on the influence of a small concentration
of chloride ions on the electroactivity of the polymer matrix of
polypyrrole (PPy), poly(N-methylpyrrole) [p(N-MePy)] and a
poly(titanocene-propyl-pyrrole) derivative, p(Tc3Py) [Tc(CH₂)₃NC₄H₉;
Tc=CpCp'TiCl₂; Cp=C₅H₅; Cp'=C₅H₄] in acetonitrile (AN), THF (THF)
and N,N-dimethylformamide (DMF). The polymer films were obtained
on Pt disc electrodes from AN solns. of the monomers containing 0.1 M
tetrabutylammonium hexafluorophosphate (TBAPF₆) as the supporting
electrolyte and then transferred to the corresponding monomer-free
solution. Studies in Cl⁻-containing solns. have shown that the p(Tc3Py)
matrix is very sensitive to the presence of Cl⁻ ions in all the
above solvents, namely that it was subjected to electrochem.
degradation at potentials above 0.1 V vs. a Ag/0.01 M Ag⁺ in AN reference
electrode. Degradation of the p(Tc3Py) matrix was also observed in
chloride-free DMF+TBAPF₆ solns. Addition of chloride ions to the AN
solution containing pyrrole, N-methylpyrrole or Tc3Py inhibits the
deposition of the polymer films. On the other hand, we have found
that PPy and p(N-MePy) matrixes after their deposition in
chloride-free AN solns. show much more stable redox responses in
contact with chloride and/or DMF solns. Possible mechanisms of
these effects are discussed.

IT **393564-45-9P**

(formation by electropolymer. on Pt in acetonitrile, THF and
N,N-dimethylformamide containing Bu₄NPF₆ in presence and absence of
chloride)

RN 393564-45-9 HCAPLUS

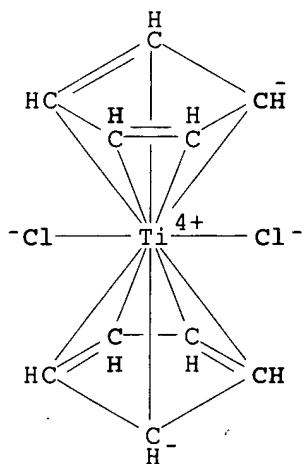
CN Titanium, dichloro(η^5 -2,4-cyclopentadien-1-yl) [(1,2,3,4,5- η)-1-[3-(1H-pyrrol-1-yl)propyl]-2,4-cyclopentadien-1-yl] - (9CI) (CA INDEX NAME)



IT 1271-19-8, Titanocene dichloride
(formation by electropolymn. on Pt in acetonitrile, THF and N,N-dimethylformamide containing Bu₄NPF₆ in presence and absence of chloride)

RN 1271-19-8 HCAPLUS

CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl) - (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)

Section cross-reference(s): 25, 29

IT 96-54-8P, N-Methylpyrrole 393564-45-9P

(formation by electropolymn. on Pt in acetonitrile, THF and N,N-dimethylformamide containing Bu₄NPF₆ in presence and absence of chloride)

IT 1271-19-8, Titanocene dichloride

(formation by electropolymn. on Pt in acetonitrile, THF and N,N-dimethylformamide containing Bu₄NPF₆ in presence and absence of

chloride)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 6 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:252115 HCAPLUS
DOCUMENT NUMBER: 140:280403
TITLE: Reaction pouch comprising an analytical sensor
INVENTOR(S): Free, M. Benton; Lawson, Del R.; McIntosh,
Lester H.; Roscoe, Stephen B.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: U.S. Pat. Appl. Publ., 15 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004058453	A1	20040325	US 2002-251066	2002 0920
WO 2004027417	A1	20040401	WO 2003-US26053	2003 0820

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,
PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG

EP 1540339	A1	20050615	EP 2003-797855	2003 0820
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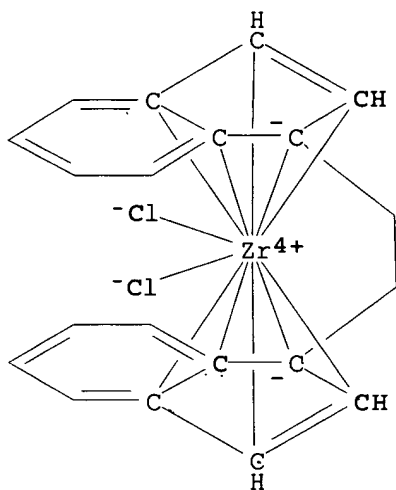
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
EE, HU, SK

PRIORITY APPLN. INFO.: US 2002-251066 A
2002
0920
WO 2003-US26053 W
2003
0820

AB A reaction device comprises a flexible, fluid-impervious pouch and
an anal. sensor for real time, in situ, reversible measurement of
properties of materials within the pouch. The sensor can be
integrally connected to the pouch or it can be free of such
connection. Preferably, the anal. sensor comprises a responsive
element that can be located inside or on the pouch, a processing

element that can be located outside the pouch, and a means for transmitting information between the responsive element and the processing element. The transmitting means can include one or more of elec., optical, magnetic, nuclear and mech. means. The pouch can be used singly or it can be a member of a combinatorial array of pouches that can be used in producing a library of materials. A method monitors changes in properties of materials within the pouch.

- IT 112243-78-4, Ethylenebis(indenyl)zirconium dichloride
(reaction pouch with an anal. sensor for monitoring syntheses)
RN 112243-78-4 HCAPLUS
CN Zirconium, dichloro[1,2-ethanediylbis[(1,2,3,3a,7a-η)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)



- IC ICM G01N033-00
INCL 436183000; 422050000; 422061000; 422068100; 422099000
CC 80-2 (Organic Analytical Chemistry)
Section cross-reference(s): 38
IT Polymerization catalysts
(photopolymer.; reaction pouch with an anal. sensor for monitoring syntheses)
IT 24650-42-8, Esacure KB1
(photoinitiator; reaction pouch with an anal. sensor for monitoring syntheses)
IT 112243-78-4, Ethylenebis(indenyl)zirconium dichloride
(reaction pouch with an anal. sensor for monitoring syntheses)

L43 ANSWER 7 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:199215 HCAPLUS

DOCUMENT NUMBER: 140:396571

TITLE: Mechanistic Investigation of the Electrochemical Reduction of Cp₂TiX₂

AUTHOR(S): Enemrke, Rasmus Juel; Larsen, Jens; Skrydstrup, Troels; Daasbjerg, Kim

CORPORATE SOURCE: Department of Chemistry, University of Aarhus, Aarhus C, 8000, Den.

SOURCE: Organometallics (2004), 23(8), 1866-1874

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

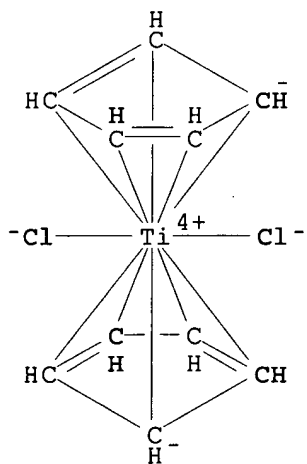
DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The mechanism for the electrochem. reduction of titanocene dihalides, Cp_2TiX_2 ($\text{X} = \text{Cl}, \text{Br}, \text{I}$), in THF was described successfully using a common mesh scheme. From simulations of recorded cyclic voltammograms it was possible to evaluate a number of thermodyn. and kinetic parameters for the species involved: i.e., $\text{Cp}_2\text{TiX}_2^-$, $(\text{Cp}_2\text{TiX})_2$, Cp_2TiX , and Cp_2Ti^+ . In general, the standard potentials of the oxidized Ti-based species increase (i.e. become less neg.) in the orders Cp_2TiX_2 , $(\text{Cp}_2\text{TiX})_2^+$, Cp_2TiX^+ , CpTi_2^+ and $\text{X} = \text{Cl}, \text{Br}, \text{I}$. From the extracted data pertaining to electrochem. reduced solns. of Cp_2TiX_2 , it becomes evident that while $\text{Cp}_2\text{TiX}_2^-$ is the major constituent for $\text{X} = \text{Cl}$, Cp_2TiX and $(\text{Cp}_2\text{TiX})_2$ are the main species in the cases of $\text{X} = \text{Br}, \text{I}$. The presence of $(\text{Cp}_2\text{TiX})_2$ is surprising, as the solvent THF was believed to be capable of breaking the weak dimeric structure. Kinetic studies of the reactions between electrochem. reduced solns. of Cp_2TiX_2 and benzyl chloride show that the reactive species are Cp_2TiX and $(\text{Cp}_2\text{TiX})_2$, with almost no contribution from $\text{Cp}_2\text{TiX}_2^-$, even in the case of $\text{X} = \text{Cl}$.

IT 1271-19-8, Titanocene dichloride 1293-73-8,
 Titanocene dibromide 12152-92-0
 (electrochem. reduction in THF)

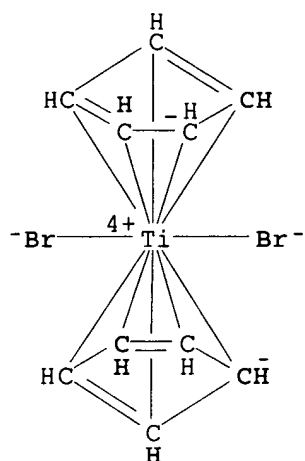
RN 1271-19-8 HCAPLUS

CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA
 INDEX NAME)



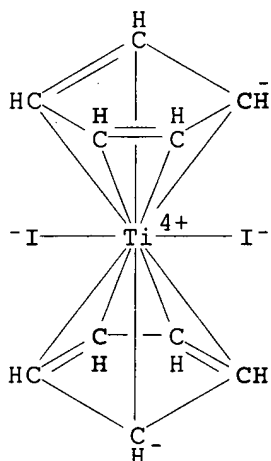
RN 1293-73-8 HCAPLUS

CN Titanium, dibromobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA
 INDEX NAME)



RN 12152-92-0 HCAPLUS

CN Titanium, bis(η⁵-2,4-cyclopentadien-1-yl)diiodo- (9CI) (CA INDEX NAME)

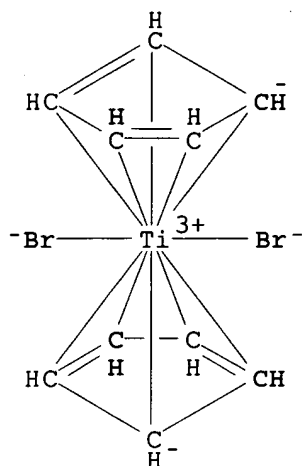


IT 75699-42-2 111801-05-9

(electrochem. reductive formation and reaction kinetics with benzyl chloride)

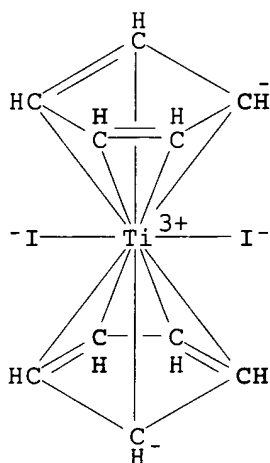
RN 75699-42-2 HCAPLUS

CN Titanate(1-), dibromobis(η⁵-2,4-cyclopentadien-1-yl)- (9CI) (CA INDEX NAME)



RN 111801-05-9 HCAPLUS

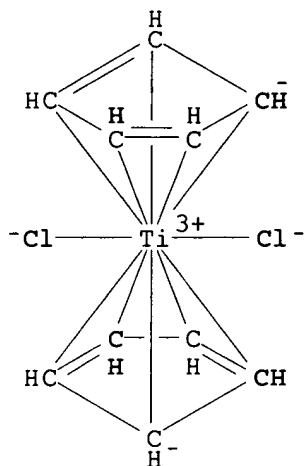
CN Titanate(1-), bis(η5-2,4-cyclopentadien-1-yl)diiodo- (9CI)
(CA INDEX NAME)



IT 75699-41-1, Dichlorodicyclopentadienyltitanate(1-)
(electrochem. reductive formation from titanocene dichloride in
THF and reaction kinetics with benzyl chloride)

RN 75699-41-1 HCAPLUS

CN Titanate(1-), dichlorobis(η5-2,4-cyclopentadien-1-yl)- (9CI)
(CA INDEX NAME)



CC 72-2 (Electrochemistry)
 Section cross-reference(s): 29
 IT 1271-19-8, Titanocene dichloride 1293-73-8,
 Titanocene dibromide 12152-92-0
 (electrochem. reduction in THF)
 IT 75699-42-2 111801-05-9
 (electrochem. reductive formation and reaction kinetics with
 benzyl chloride)
 IT 75699-41-1, Dichlorodicyclopentadienyltitanate(1-)
 (electrochem. reductive formation from titanocene dichloride in
 THF and reaction kinetics with benzyl chloride)
 REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 8 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:890171 HCAPLUS
 DOCUMENT NUMBER: 139:388243
 TITLE: Optical film using norbornene resin
 INVENTOR(S): Yamada, Tsukasa
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003322722	A2	20031114	JP 2002-129688	2002 0501
PRIORITY APPLN. INFO.:				2002 0501

AB The invention refers to an optical film comprising a saturated
 norbornene resin wherein the resin is polymerized in the presence of a

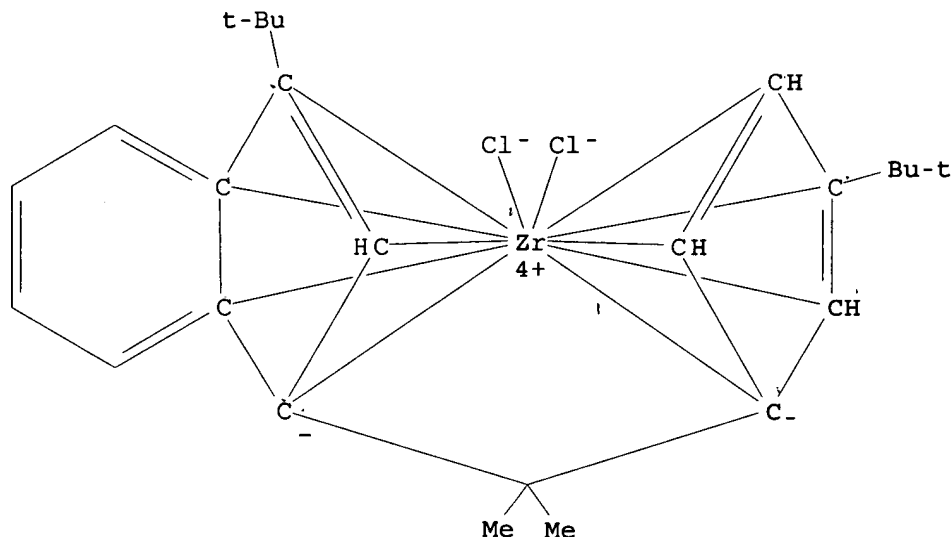
catalyst containing at least one metallocene, and the optical retardation of the film is 20 - 300 nm, in order to maintain uniform retardation.

IT 152603-02-6

(optical film using norbornene resin)

RN 152603-02-6 HCAPLUS

CN Zirconium, dichloro[η¹⁰-[3-(1,1-dimethylethyl)-2,4-cyclopentadien-1-ylidene](1-methylethylidene)[3-(1,1-dimethylethyl)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)



IC ICM G02B005-30

ICS B29C055-02; C08J005-18; G02F001-1336; B29K045-00; B29L007-00; C08L065-00

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

IT 152603-02-6

(optical film using norbornene resin)

L43 ANSWER 9 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:890170 HCAPLUS

DOCUMENT NUMBER: 139:388578

TITLE: Optical films and polarizers using them with reduced defects and excellent yellowing prevention

INVENTOR(S): Yamada, Tsukasa

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003322721	A2	20031114	JP 2002-129687	

2002
0501

PRIORITY APPLN. INFO.:

JP 2002-129687

2002
0501

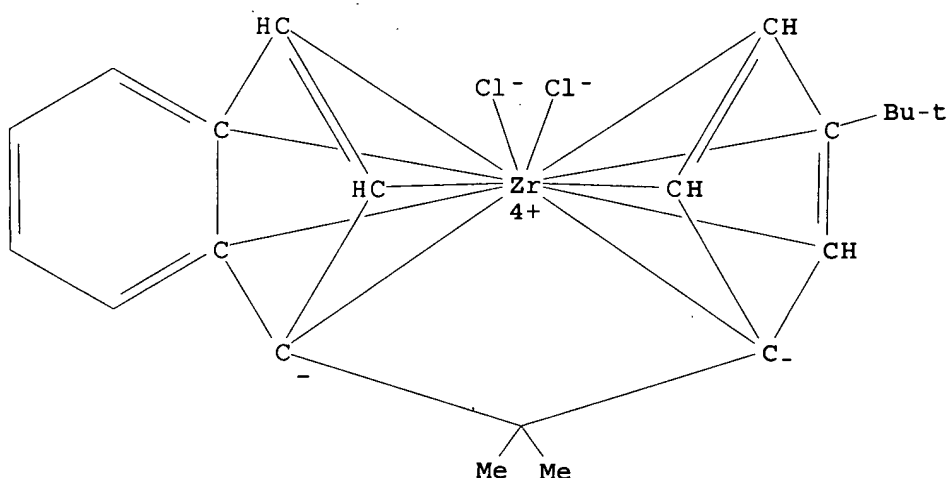
AB The films, useful for protecting LCD polarizers, consist of films containing $\geq 10\%$ saturated norbornene polymers (prepared using catalysts containing ≥ 1 metallocenes) and adhesive layers.

IT 198267-62-8

(metallocene polymerization catalyst; optical films based on metallocene-type saturated norbornene polymers for polarizers with reduced defects and good yellowing prevention)

RN 198267-62-8 HCAPLUS

CN Zirconium, dichloro[$\eta 10$ -[3-(1,1-dimethylethyl)-2,4-cyclopentadien-1-ylidene](1-methylethylidene)-1H-inden-1-ylidene]-(9CI) (CA INDEX NAME)



IC ICM G02B005-30

ICS G02F001-1335

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 73

IT 198267-62-8

(metallocene polymerization catalyst; optical films based on metallocene-type saturated norbornene polymers for polarizers with reduced defects and good yellowing prevention)

L43 ANSWER 10 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:851139 HCAPLUS

DOCUMENT NUMBER: 139:324463

TITLE: Blow-molded multimodal polyethylene for fuel tanks

INVENTOR(S): Siberdt, Fabian; Neuray, Francois; Lequeux, Michel

PATENT ASSIGNEE(S): Solvay Polyolefins Europe-Belgium (Societe Anonyme), Belg.

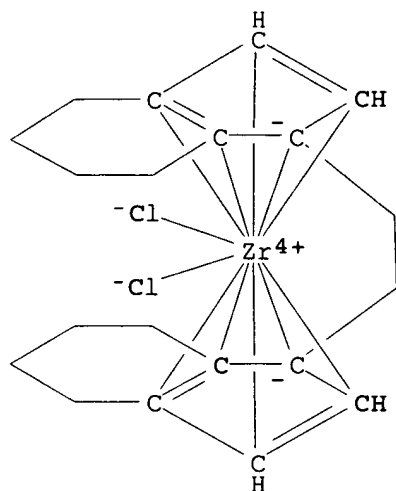
SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1357152	A1	20031029	EP 2002-77189	2002 0426
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CA 2483458	AA	20031106	CA 2003-2483458	2003 0410
WO 2003091329	A1	20031106	WO 2003-EP3791	2003 0410
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1499674	A1	20050126	EP 2003-747099	2003 0410
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003009571	A	20050209	BR 2003-9571	2003 0410
PRIORITY APPLN. INFO.:				
			EP 2002-77189	A 2002 0426
			WO 2003-EP3791	W 2003 0410
AB	A fuel tank for a vehicle is disclosed, comprising at least one component which is blow-molded multimodal polyethylene having a polydispersity of at least 4, formed of at least two blocks, each having a polydispersity Mw/Mn of less than 4.			
IT	112243-79-5 (blow-molded multimodal polyethylene for fuel tanks)			
RN	112243-79-5 HCAPLUS			
CN	Zirconium, dichloro[1,2-ethanediylbis[(1,2,3,3a,7a-η)-4,5,6,7-tetrahydro-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)			



IC ICM C08L023-04

ICS C08F010-02; B60K015-03

CC 38-3 (Plastics Fabrication and Uses)

IT 100-99-2, uses 112243-79-5

(blow-molded multimodal polyethylene for fuel tanks)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 11 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:717431 HCAPLUS

DOCUMENT NUMBER: 139:238673

TITLE: MIM capacitor with metal nitride electrode
materials and method of formation

INVENTOR(S): Basceri, Cem; Graettinger, Thomas M.

PATENT ASSIGNEE(S): Micron Technology, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 23 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003168750	A1	20030911	US 2002-93470	2002 0311
US 6753618	B2	20040622		
WO 2003079417	A2	20030925	WO 2003-US7049	2003 0310
WO 2003079417	A3	20031218		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC,

SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ,
 VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
 GQ, GW, ML, MR, NE, SN, TD, TG

US 2003205729 A1 20031106 US 2003-419191

2003

0421

US 6881642 B2 20050419

PRIORITY APPLN. INFO.:

US 2002-93470

A

2002

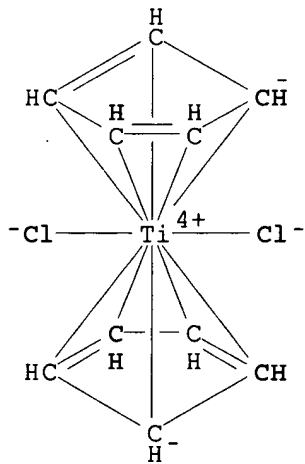
0311

AB The present invention relates to the field of integrated circuits and, in particular, to a novel method of forming capacitor structures. An MIM capacitor with low leakage and high capacitance is disclosed. A layer of TiN or TiBN material is formed as a lower electrode over an optional capacitance layer of hemispherical grained polysilicon (HSG). Prior to the dielec. formation, the 1st layer may be optionally subjected to a nitridization or oxidation process. A dielec. layer of, e.g., Al₂O₃ formed by atomic layer deposition (ALD) is fabricated over the 1st layer and after the optional nitridization or oxidation process. An upper electrode of TiN or TiBN is formed over the dielec. layer.

IT 1271-19-8, Bis(cyclopentadienyl) titanium dichloride
 (vapor deposition precursor; MIM capacitor with metal nitride electrode materials and method of formation)

RN 1271-19-8 HCAPLUS

CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA INDEX NAME)



IC ICM H01L029-12

INCL 257915000

CC 76-10 (Electric Phenomena)

ST MIM capacitor semiconductor device fabrication nitride electrode

IT Annealing
 Capacitor electrodes

Dielectric films

Etching

Integrated circuits

MIM capacitors

Semiconductor device fabrication

Semiconductor memory devices

(MIM capacitor with metal nitride electrode materials and method of formation)

IT 7440-56-4, Germanium, uses 7631-86-9, Silica, uses

(**conductive** support layer; MIM capacitor with metal nitride electrode materials and method of formation)

IT 1270-98-0, Cyclopentadienyl titanium trichloride 1271-19-8

, Bis(cyclopentadienyl) titanium dichloride 7446-70-0, Aluminum trichloride, reactions 7550-45-0, Titanium tetrachloride, reactions 7705-07-9, Titanium trichloride, reactions

(vapor deposition precursor; MIM capacitor with metal nitride electrode materials and method of formation)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 12 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:699595 HCAPLUS

DOCUMENT NUMBER: 140:49210

TITLE: Memory effects in functionalized

conducting polymer films:

titanocene derivatized polypyrrole in contact with THF solutions

AUTHOR(S): Vorotyntsev, Mikhail A.; Skompska, Magdalena;

Pousson, Evelyne; Goux, Jerome; Moise, Claude

CORPORATE SOURCE: LSEO-UMR 5632 CNRS, Universite de Bourgogne,

Dijon, F-21000, Fr.

SOURCE: Journal of Electroanalytical Chemistry (2003), 552, 307-317

CODEN: JECHES

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Films with a polypyrrole matrix and pendant titanocene dichloride centers, p(Tc3Py), have been obtained by potentiostatic electropolymerization of the titanocene-pyrrolyl derivative, Tc3Py=Tc(CH₂)₃NC₄H₄ (Tc=Cl₂TiCpCp', Cp=C₅H₅, Cp'=C₅H₄), in acetonitrile (AN) solns. on a Pt surface. The redox activity has been studied after the transfer of the film-coated electrode into the monomer-free solution of the same electrolyte, TBAPF₆, in THF. Contrary to the case of AN or dichloromethane solns., one can achieve a stable redox activity of the immobilized Tc centers in THF solns. during a series of cycles. A parallel between the redox properties of the Tc complex in solution and inside the film for different solvents has been established. Various 'memory' effects have been observed, i.e. the dependence of the film response on the previous treatment of the film: (a) a prepeak at the onset of the polymer matrix oxidation (observed earlier for other functionalized **conducting polymer** films); (b) an 'enhanced plateau' within the range of the polymer matrix electroactivity; (c) a strong increase of the current within the reduction peak of titanocene centers after the previous passage through the range of the matrix electroactivity (compared to the response when the potential variation is limited to the titanocene potential range); (d) a shift of all oxidation waves in the pos.

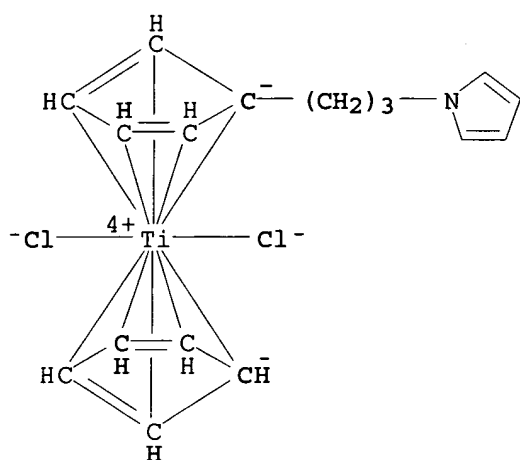
direction as a result of the film exposure to sufficiently high neg. potentials as well as their backward shift if the film is held at a potential in the window' between the two ranges of electroactivity. Possible interpretations of this phenomenon have been discussed. A non-equilibrium origin of this phenomenon has been proven. An attribution of the observed effects to redox processes in the polymer matrix and immobilized titanocene centers has been proposed.

IT 393564-45-9P

(electropolymn. at Pt electrode in acetonitrile containing Bu₄NPF₆)

RN 393564-45-9 HCAPLUS

CN Titanium, dichloro(η^5 -2,4-cyclopentadien-1-yl) [(1,2,3,4,5- η)-1-[3-(1H-pyrrol-1-yl)propyl]-2,4-cyclopentadien-1-yl]-
(9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)

Section cross-reference(s): 26, 38

ST polypyrrole titanocene film memory effect; redox active film
conducting polymer modified electrode memory effect

IT Memory effect
(in functionalized **conducting polymer** films)

IT **Conducting polymers**
Films
(memory effects in functionalized **conducting polymer** films)

IT 393564-45-9P

(electropolymn. at Pt electrode in acetonitrile containing Bu₄NPF₆)

REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 13 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:84995 HCAPLUS

DOCUMENT NUMBER: 138:391934

TITLE: Thermodynamic and kinetic control over the
electrochemical reduction of
di(propylthiotetramethylcyclopentadienyl)
titanium dichloride in tetrahydrofuran
AUTHOR(S): Vallat, A.; Roullier, L.; Bourdon, C.

CORPORATE SOURCE: Laboratoire de Synthese et d'Electrosynthese
Organometalliques (LSEO), Associe au CNRS (UMR
5632), Faculte des Sciences, Dijon, 21000, Fr.

SOURCE: Journal of Electroanalytical Chemistry (2003),
542, 75-83
CODEN: JECHES

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

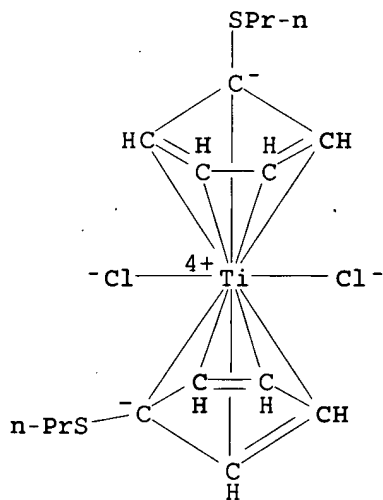
LANGUAGE: English

AB The first reduction step of di(propylthiotetramethylcyclopentadienyl)
titanium dichloride ($\text{Cp}_2'\text{TiCl}_2$) in THF solution has been investigated
by cyclic voltammetry under steady-state conditions, cyclic
voltammetry in diffusion and in thin layer. The results can be
interpreted in terms of a square scheme with ligand-exchange chemical
reactions. The thermodyn. and kinetic parameters have been
obtained by simulation. The rate consts. of the charge transfer,
derived from the voltammetric curves, are rather slow ($k_{\text{hi}}=0.025$
 cm s^{-1}). The equilibrium $\text{Cp}_2'\text{TiCl}_2+\text{L}/\text{Cp}_2'\text{TiClL}++\text{Cl}^-$ is determined by the
fast recombination of the chloride ion and the cation
($K_1=2.4 \times 10^{-11}$ M, $k_{\text{b1.simeq.}} 10^{11} \text{ M}^{-1} \text{ s}^{-1}$); whereas the equilibrium
 $\text{Cp}_2'\text{TiCl}_2+\text{L}/\text{Cp}_2'\text{TiClL}+\text{Cl}^-$ is in favor of the chloride ion
departure ($K_2=0.01$ M) with a fast reaction rate ($k_{\text{f2}}=1000 \text{ s}^{-1}$).

IT 185522-18-3
(kinetic control over electrochem. reduction of
di(propylthiotetramethylcyclopentadienyl) titanium dichloride
in THF)

RN 185522-18-3 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5- η)-1-(propylthio)-2,4-
cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)
Section cross-reference(s): 29, 67, 69

IT 185522-18-3
(kinetic control over electrochem. reduction of
di(propylthiotetramethylcyclopentadienyl) titanium dichloride
in THF)

REFERENCE COUNT: 81 THERE ARE 81 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 14 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:46560 HCAPLUS

DOCUMENT NUMBER: 138:391918

TITLE: In situ spectroelectrochemical study of the reductive coupling of benzaldehyde catalyzed by Ti(III) complexes in the presence of Mg(II)

AUTHOR(S): Meunier-Prest, R.; Lamblin, G.; Mailfert, A.; Raveau, S.

CORPORATE SOURCE: CNRS-UMR 5632, Faculte de Sciences Gabriel, Laboratoire de Synthese et d'Electrosynthese Organometalliques, Universite de Bourgogne, Dijon, 21000, Fr.

SOURCE: Journal of Electroanalytical Chemistry (2003), 541, 175-183
CODEN: JECHES

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

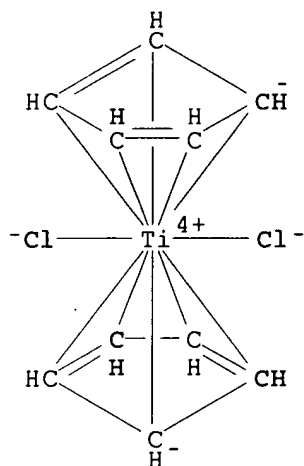
AB The UV-vis spectroelectrochem. technique has been used to visualize for the first time, the formation of a trimetallic intermediate Ti(III)-Mg(II)-Ti(III) during the reductive coupling of benzaldehyde in the presence of electrogenerated Ti(III) and MgCl₂. This intermediate is supposed to induce the high diastereoselectivity of the reaction. We have built a special thin layer cell adapted from the scheme proposed by A. Neudeck and L. Dunsch [J. Electroanal. Chemical 370 (1994) 17; J. Electroanal. Chemical 386 (1995) 135'] which allows the simultaneous recording of the cyclic voltammogram and of a great quantity of UV-vis spectra at a frequency of 1 spectrum per s by means of a UV-vis diode array spectrometer. The intermediate complex has been characterized by its UV-vis spectrum (λ_{max} =287, 321 and 370 nm). Its formation needs the simultaneous presence of electrogenerated Ti(III), MgCl₂ and benzaldehyde in the spectroelectrochem. cell. The global chemical reaction rate constant of Cp₂TiCl₂ with ArCHO in the presence of MgCl₂ has been determined by cyclic voltammetry and spectroelectrochem. Both techniques are in good agreement and provide the same value, $k=410\pm127 \text{ M}^{-3/2} \text{ s}^{-1}$.

IT 1271-19-8P

(in situ spectroelectrochem. study of reductive coupling of benzaldehyde catalyzed by Ti(III) complexes in presence of Mg(II))

RN 1271-19-8 HCAPLUS

CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)

Section cross-reference(s): 25, 29, 67, 73

IT 1271-19-8P

(in situ spectroelectrochem. study of reductive coupling of
benzaldehyde catalyzed by Ti(III) complexes in presence of
Mg(II))

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 15 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:717072 HCAPLUS

DOCUMENT NUMBER: 137:233404

TITLE: Method for producing dot-printless light guide
plate for liquid crystal display device using
norbornene copolymer

INVENTOR(S): Choi, Jin Sung; Park, Jae Geun; Moon, Bong
Seok; Yoon, Keun Byoung

PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea

SOURCE: U.S. Pat. Appl. Publ., 11 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002132880	A1	20020919	US 2001-966098	2001 1001
US <u>6699409</u>	B2	20040302		
KR 2002061459	A	20020724	KR 2001-32749	2001 0612
PRIORITY APPLN. INFO.:		KR 2001-2243	A	2001 0115

KR 2001-32749

A

2001

0612

AB The present invention discloses a method for producing a dot-printless light guide plate for a liquid crystal display device using an addition polymerized norbornene-olefin copolymer. Ethylene-norbornene copolymer was prepared in the presence of a catalyst system comprising tri-Et aluminum, aluminoxane, and ethylenebisindenylzirconium dichloride.

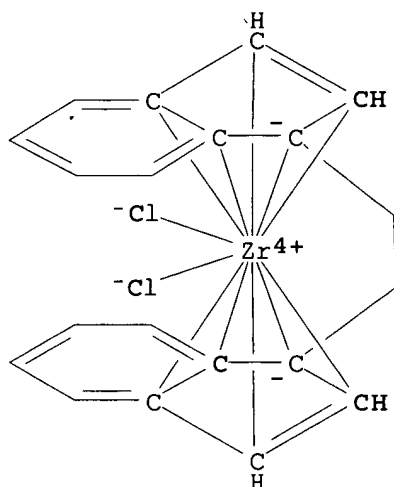
IT 112243-78-4, Ethylene bisindenylzirconium dichloride

119821-97-5, Dimethylsilylene bisindenylzirconium dichloride

(method for producing dot-printless light guide plate for liquid crystal display device using norbornene copolymer)

RN 112243-78-4 HCAPLUS

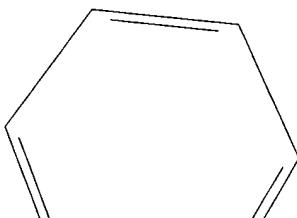
CN Zirconium, dichloro[1,2-ethanediylbis[(1,2,3,3a,7a-η)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)



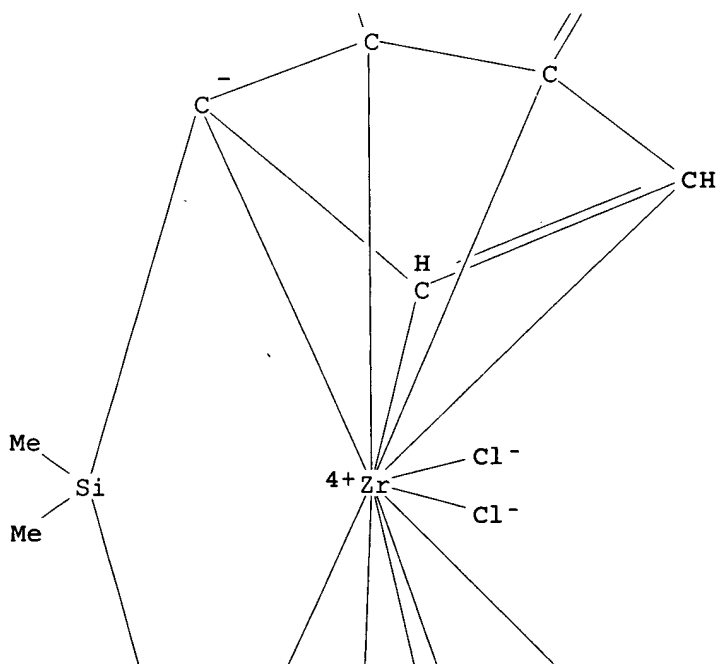
RN 119821-97-5 HCAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-η)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

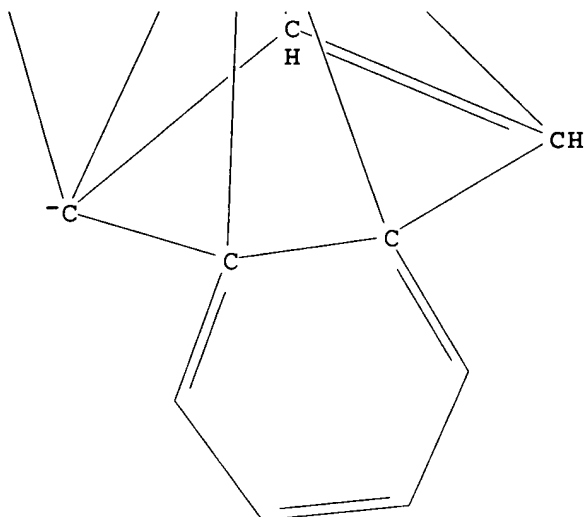
PAGE 1-A



PAGE 2-A



PAGE 3-A



IC ICM C08K003-00
 INCL 523334000
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 74
 IT 97-93-8, Triethyl aluminium, uses 112243-78-4, Ethylene
 bisindenylzirconium dichloride 119821-97-5,
 Dimethylsilylene bisindenylzirconium dichloride
 (method for producing dot-printless light guide plate for liquid
 crystal display device using norbornene copolymer)

L43 ANSWER 16 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:923870 HCAPLUS
 DOCUMENT NUMBER: 136:54561
 TITLE: Injection moulding polymer
 INVENTOR(S): Baann, Hege Vale; Lindahl, Ann Kristin
 PATENT ASSIGNEE(S): Borealis Technology Oy, Finland; Golding,
 Louise
 SOURCE: PCT Int. Appl., 17 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001096419	A2	20011220	WO 2001-GB2650	2001 0614

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ,
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ,
 EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID,
 IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ,
 UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD,
 RU, TJ

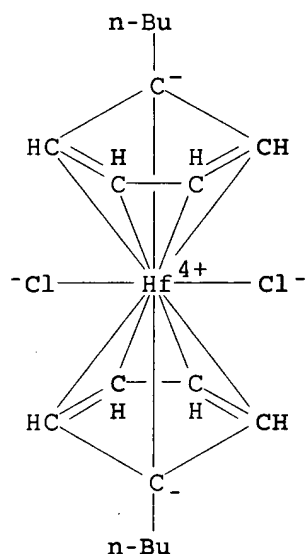
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE,
 CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
 PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR,
 NE, SN, TD, TG

CA 2412814	AA	20011220	CA 2001-2412814	2001 0614
EP 1292626	A2	20030319	EP 2001-938455	2001 0614
EP 1292626	B1	20041027		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001011695	A	20030701	BR 2001-11695	2001 0614
JP 2004503623	T2	20040205	JP 2002-510554	2001 0614
EP 1469014	A1	20041020	EP 2004-16540	2001 0614
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
AT 280789	E	20041115	AT 2001-938455	2001 0614
ES 2227208	T3	20050401	ES 2001-1938455	2001 0614
US 2003181608	A1	20030925	US 2003-311171	2003 0505
US 6806338	B2	20041019		
PRIORITY APPLN. INFO.:			GB 2000-14547	A 2000 0614
			EP 2001-938455	A3 2001 0614
			WO 2001-GB2650	W 2001 0614

AB The invention relates to the use of an LLDPE produced using a single site catalyst, e.g. an LLDPE produced using a metallocene (m-LLDPE), in injection molding of food packaging material, especially closures for food containers. Thus, a mixture of ethylene, hexene, hydrogen, and nitrogen, and silica-supported rac-(ethylenebis(2-(tert-butylidimethylsiloxy)indenyl))zirconium dichloride-methylaluminoxane catalyst under the conditions of ethylene feed 17.9 kg/h, ethylene partial pressure 14.8 bar, hydrogen feed 0.001 kg/h, and hexene feed 1.2 kg/h was fed to a gas phase reactor with fluidized bed at 75° and 17.5 bar to give a copolymer having melt flow rate 31 g/10 min (determined at 190° using 2.16 kg load), d. 926 kg/m³, weight-average mol. weight 49,000, and number-average mol. weight 12,000 and injection molded to produce lids with level of

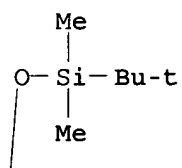
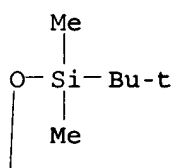
migration 0.5 and -3.9 mg/dm², hexane extractable 0.91 weight% when immersed in olive oil for 10 days at 40°, compared with 48.8 and 45.3 mg/dm² and 5.3 weight%, resp. for lids prepared using Ziegler-Natta polymer.

- IT 85722-08-3, Bis(butylcyclopentadienyl)hafnium dichloride
 176377-32-5, Rac-(ethylenebis(2-(tert-butyl dimethylsiloxy)-1-indenyl))zirconium dichloride
 (catalysts; manufacture of single site catalyst-polymerized LLDPE for injection molding for food packaging applications)
- RN 85722-08-3 HCAPLUS
- CN Hafnium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)

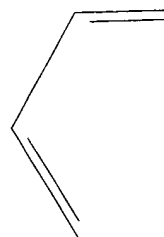


- RN 176377-32-5 HCAPLUS
- CN Zirconium, dichloro[rel-(2R,2'R)-1,2-ethanediylbis[(1,2,3,3a,7a- η)-2-[[[(1,1-dimethylethyl)dimethylsilyl]oxy]-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

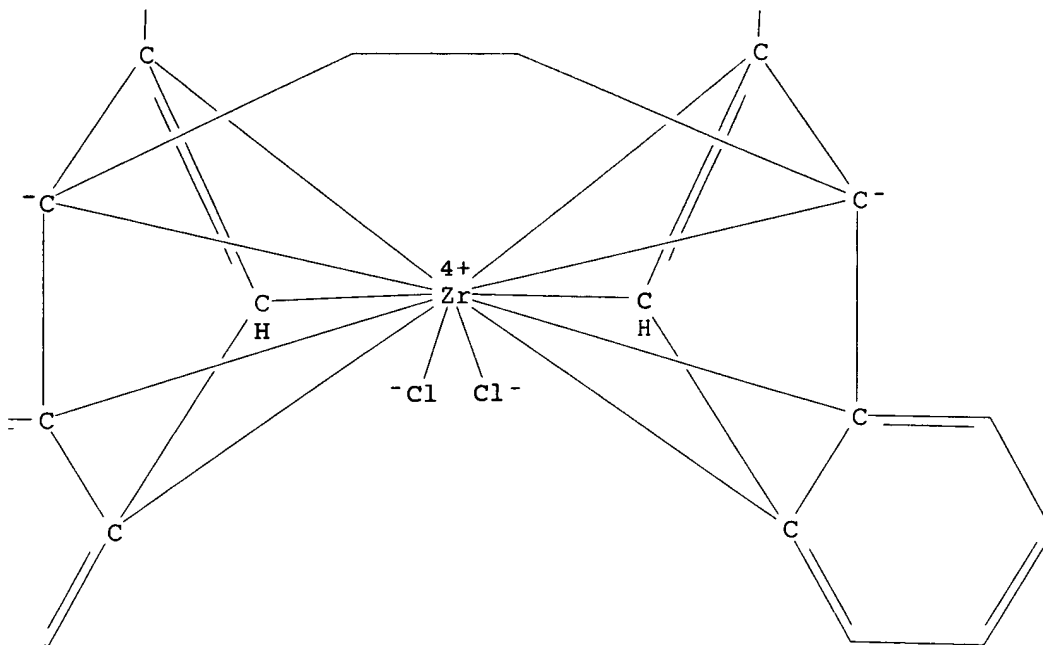
PAGE 1-B



PAGE 2-A



PAGE 2-B



IC ICM C08F010-02
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 17, 35, 38
 IT 85722-08-3, Bis(butylcyclopentadienyl)hafnium dichloride
 176377-32-5, Rac-(ethylenebis(2-(tert-butyldimethylsiloxy)-1-indenyl))zirconium dichloride
 (catalysts; manufacture of single site catalyst-polymerized LLDPE for injection molding for food packaging applications)

L43 ANSWER 17 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:781427 HCAPLUS

DOCUMENT NUMBER: 135:337208

TITLE: Method of forming metal nitride film by chemical vapor deposition and method of forming metal contact and capacitor of semiconductor device using the same

INVENTOR(S): Lim, Hyun-seok; Kang, Sang-bom; Jeon, In-sang; Choi, Gil-heyen

PATENT ASSIGNEE(S): S. Korea

SOURCE: U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S. 6,197,683.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2001034097	A1	20011025	US 2001-765531	2001 0119

US 6348376
US 6197683

B2 20020219
B1 20010306 US 1998-156724

1998
0918

PRIORITY APPLN. INFO.:

KR 1997-49746 A

1997
0929

KR 1998-29531 A

1998
0722

US 1998-156724 A2

1998
0918

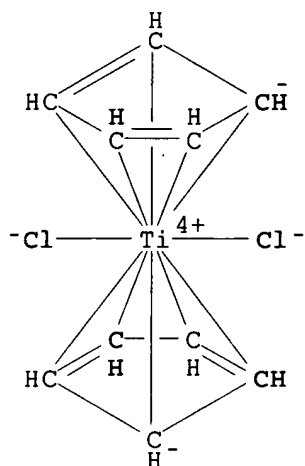
AB A method of forming a metal nitride film using CVD, and a method of forming a metal contact and a **semiconductor** capacitor of a **semiconductor** device using the same, are provided. The method of forming a metal nitride film using CVD in which a metal source and a nitrogen source are used as a precursor, includes the steps of inserting a **semiconductor** substrate into a deposition chamber, flowing the metal source into the deposition chamber, removing the metal source remaining in the deposition chamber by cutting off the inflow of the metal source and flowing a purge gas into the deposition chamber, cutting off the purge gas and flowing the nitrogen source into the deposition chamber to react with the metal source adsorbed on the **semiconductor** substrate, and removing the nitrogen source remaining in the deposition chamber by cutting off the inflow of the nitrogen source and flowing the purge gas into the deposition chamber. Accordingly, the metal nitride film having low resistivity and a low content of Cl even with excellent step coverage can be formed at a temperature of 500° or lower, and a **semiconductor** capacitor having excellent leakage current characteristics can be manufactured. Also, a deposition speed, .apprx.20 A/cycle, is suitable for mass production.

IT 1271-19-8 11136-36-0

(method of forming metal nitride film by CVD using metal source of)

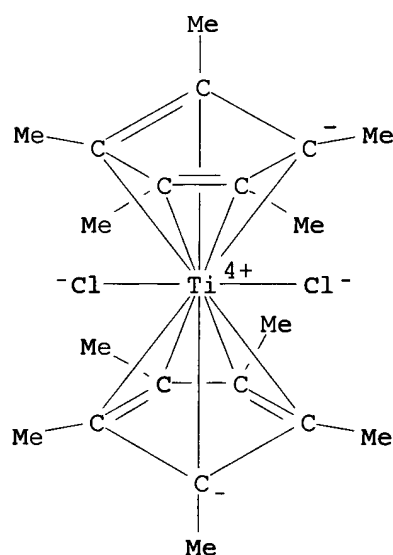
RN 1271-19-8 HCAPLUS

CN Titanium, dichlorobis(η 5-2,4-cyclopentadien-1-yl) - (9CI) (CA INDEX NAME)



RN 11136-36-0 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl] - (9CI) (CA INDEX NAME)



IC H01L021-8242; H01L021-20; H01L021-44

INCL 438253000

CC 75-1 (Crystallography and Liquid Crystals)

Section cross-reference(s): 76

ST metal nitride film CVD elec contact capacitor
semiconductor device

IT Vapor deposition process

(chemical; method of forming metal nitride film by CVD metal and
method of forming metal contact and capacitor of
semiconductor device using same)

IT Capacitors

Electric contacts

(fabrication; method of forming metal nitride film by CVD metal

- and method of forming metal contact and capacitor of **semiconductor** device using same)
- IT **Semiconductor** device fabrication
(method of forming metal nitride film by CVD metal and method of forming metal contact and capacitor of **semiconductor** device using same)
- IT Nitrides
(method of forming metal nitride film by CVD metal and method of forming metal contact and capacitor of **semiconductor** device using same)
- IT 25583-20-4, Titanium nitride
(method of forming metal nitride film by CVD metal and method of forming metal contact and capacitor of **semiconductor** device using same)
- IT 1270-98-0 1271-19-8 3275-24-9, Tetradimethylamino titanium 4419-47-0, Tdeat 7550-45-0, Titanium chloride (TiCl₄), processes 7705-07-9, Titanium chloride (TiCl₃), processes 7720-83-4, Titanium iodide (TiI₄) 7721-01-9, Tantalum chloride (TaCl₅) 7783-63-3, Titanium fluoride (TiF₄) 7783-71-3, Tantalum fluoride (TaF₅) 11136-36-0 12129-06-5 13451-11-1, Tantalum bromide (TaBr₅) 13783-04-5, Titanium bromide (TiBr₂) 14693-81-3, Tantalum iodide (TaI₅) 15719-81-0 58097-69-1 71414-47-6 84365-55-9 107333-47-1
(method of forming metal nitride film by CVD using metal source of)

L43 ANSWER 18 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:770368 HCAPLUS

DOCUMENT NUMBER: 136:141512

TITLE: Redox properties of titanocene-pyrrole derivative and its electropolymerization

AUTHOR(S): Vorotyntsev, M. A.; Casalta, M.; Pousson, E.; Roullier, L.; Boni, G.; Moise, C.

CORPORATE SOURCE: LSEO-UMR 5632 CNRS-Universite de Bourgogne, Dijon, F-21000, Fr.

SOURCE: Electrochimica Acta (2001), 46(26-27), 4017-4033

CODEN: ELCAAV; ISSN: 0013-4686

PUBLISHER: Elsevier Science Ltd.

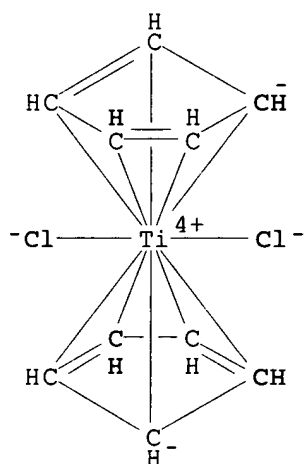
DOCUMENT TYPE: Journal

LANGUAGE: English

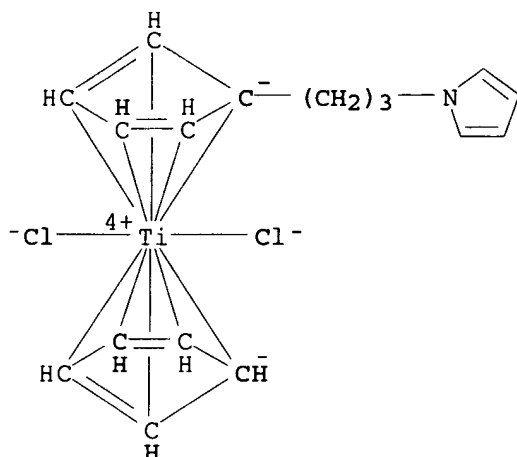
AB A new titanocene dichloride derivative in which one cyclopentadienyl ligand (Cp) is functionalized with a pyrrolyl ring, Tc3Py (Cl₂TiCpC₅H₄(CH₂)₃NC₄H₄), has been synthesized and characterized with NMR. Its redox properties have been studied by CV in acetonitrile (AN), THF (THF) and dichloromethane (DCM), in comparison with unsubstituted titanocene dichloride (Tc) and pyrrole. Ti(IV/III) transition observed within the neg. potential range is a quasi-reversible reaction in THF and DCM (but without a complete recuperation of the initial reagent in the back scan) while the reoxidn. peak in AN is strongly shifted in the pos. direction. These results are interpreted within the framework of a 'square scheme' where the electrochem. reduction step is accompanied by the rapid substitution of one chloride ligand by the solvent mol. The back electron transfer follows the same reaction path for weakly coordinating media (THF, DCM) whereas this process is shifted to a more pos. potential in the case of strongly coordinating solvents (AN). In the pos. potential range, the derivative, Tc3Py, is irreversibly oxidized (similar to pyrrole) in AN or DCM so that one can deposit a **conducting**

polymer film with the use of different electrochem. regimes. Redox properties of its polymer matrix resemble alkyl-modified polypyrroles. The redox activity of pendant Tc groups is restricted in AN since only a thin layer of the film near the electrode surface can be reduced. A more pronounced response of immobilized Tc is observed in DCM for films polymerized in AN. Reduction peak current and reduction charge of the film depend on the potential scan rate. For sufficiently thin films and slow potential sweeps, one can reach an almost complete redox transformation of titanocene groups inside the film as evidenced by the theor. expected ratio of polymer matrix and titanocene redox charges. Possible reasons of 'prepeak' appearance are discussed.

- IT 1271-19-8, Titanocene dichloride
(cyclic voltammetry of titanocene dichloride and titanocene pyrrole complex in THF, acetonitrile and dichloromethane containing)
- RN 1271-19-8 HCAPLUS
- CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl) - (9CI) (CA INDEX NAME)



- IT 393564-45-9P
(intermediate reactive in synthesis of titanocene-pyrrole derivative)
- RN 393564-45-9 HCAPLUS
- CN Titanium, dichloro(η^5 -2,4-cyclopentadien-1-yl) [(1,2,3,4,5- η)-1-[3-(1H-pyrrol-1-yl)propyl]-2,4-cyclopentadien-1-yl] - (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)
 Section cross-reference(s): 29
 ST titanocene pyrrole deriv **conducting polymer**
electropolymer redox property
 IT **Conducting polymers**
 (redox properties of titanocene-pyrrole derivative and its
 electropolymer.)
 IT 1271-19-8, Titanocene dichloride
 (cyclic voltammetry of titanocene dichloride and titanocene
 pyrrole complex in THF, acetonitrile and dichloromethane
 containing)
 IT 100890-92-4P 393564-44-8P **393564-45-9P**
 (intermediate reactive in synthesis of titanocene-pyrrole
 derivative)
 REFERENCE COUNT: 58 THERE ARE 58 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 19 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:729780 HCAPLUS
 DOCUMENT NUMBER: 135:273376
 TITLE: Metallocene-produced polyethylene for glossy
 plastic containers
 INVENTOR(S): Maziers, Eric; Miserque, Olivier
 PATENT ASSIGNEE(S): Fina Research S.A., Belg.
 SOURCE: Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1138702	A1	20011004	EP 2000-201154	2000 0330
WO 2001072856	A1	20011004	WO 2001-EP3525	

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO

2001
0328

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB,
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE,
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR,
NE, SN, TD, TG

EP 1268576 A1 20030102 EP 2001-927822

2001
0328

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
US 2004121098 A1 20040624 US 2003-333175

2003
0624

PRIORITY APPLN. INFO.: EP 2000-201154 A

2000
0330

WO 2001-EP3525 W

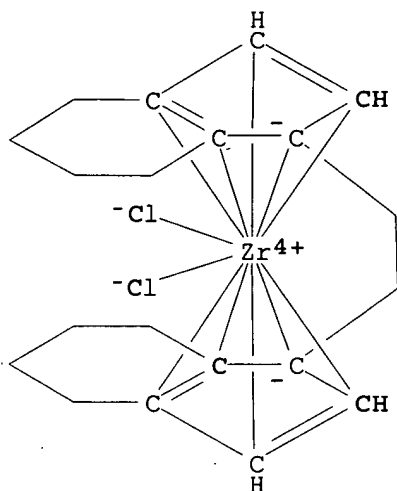
2001
0328

AB A plastic container comprises one or more layers characterized in
that the external layer is prepared essentially from a
metallocene-produced polyethylene resin. The metallocene-produced
polyethylene typically has d. 0.930-0.966 and a melt index M12
0.5-2.5 g/10 min.

IT 112243-79-5, Ethylene bis-(tetrahydroindenyl)
zirconiumdichloride
(metallocene-produced polyethylene for glossy plastic
containers)

RN 112243-79-5 HCAPLUS

CN Zirconium, dichloro[1,2-ethanediylbis[(1,2,3,3a,7a-η)-4,5,6,7-
tetrahydro-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)



IC ICM C08F010-02
ICS B65D001-00
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38
IT 100-99-2, uses 112243-79-5, Ethylene
bis-(tetrahydroindenyl) zirconiumdichloride
(metallocene-produced polyethylene for glossy plastic
containers)
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 20 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:603618 HCAPLUS
DOCUMENT NUMBER: 135:167819
TITLE: Transparent ethylene polymer sheets with good
tensile modulus, tensile strength, and impact
and heat resistance for packaging materials,
and their moldings
INVENTOR(S): Taka, Toshio
PATENT ASSIGNEE(S): Japan Polyolefina Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001226496	A2	20010821	JP 2000-37170	2000 0215
PRIORITY APPLN. INFO.:			JP 2000-37170	2000 0215

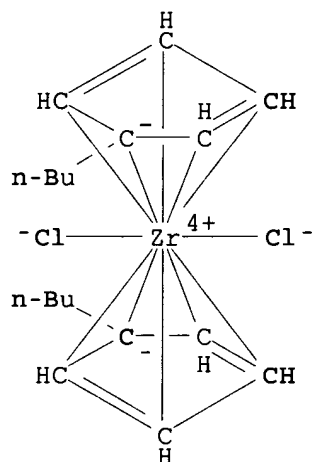
AB Title sheets, which are manufactured at a low mold temperature by e.g.

air-cooling inflation, show thickness 100 μm to 5 mm and modulus of elasticity (ASTM D882) 4500-12,000 kg/cm², and are obtained from compns. containing 55-98% polyethylene or ethylene- α -olefin copolymers with d. 0.93-0.97 g/cm³ and 2-45% ethylene copolymers with d. 0.86-0.94 g/cm³, MFR 0.01-50 g/10 min, Mw/Mn 1.5-4.5, and specific relationship between the d. and elution temperature by temperature rising elution fractionation (TREF) method. Thus, a 2.0 mm-thick sheet containing 70% high-d. polyethylene (d. 0.952 g/cm³, MRF 0.2 g/10 min), 30% LLDPE [manufactured from ethylene and 1-hexene in the presence of Zr(OEt)₄, indene, Pr₃Al, and Me aluminoxane], and additives showed elasticity 10 + 103 kg/cm².

IT 73364-10-0, Bis(butylcyclopentadienyl)zirconium dichloride
(manufacture of transparent ethylene polymer sheets with good tensile modulus, tensile strength, and impact and heat resistance for packaging materials)

RN 73364-10-0 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM C08J005-18

ICS B29C047-00; B29C051-00; B29C055-28; C08L023-04; C08L023-08; B29K023-00; B29L007-00

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37

IT 95-13-6, Indene 102-67-0, Tripropylaluminum 18267-08-8, Tetraethoxyzirconium 73364-10-0, Bis(butylcyclopentadienyl)zirconium dichloride
(manufacture of transparent ethylene polymer sheets with good tensile modulus, tensile strength, and impact and heat resistance for packaging materials)

L43 ANSWER 21 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:554604 HCAPLUS

DOCUMENT NUMBER: 135:127267

TITLE: Polyethylene resin compositions for medical containers and containers from the compositions

INVENTOR(S): Naka, Zenpei

PATENT ASSIGNEE(S): Nippon Polychemicals Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001204791	A2	20010731	JP 2000-16987	2000 0126

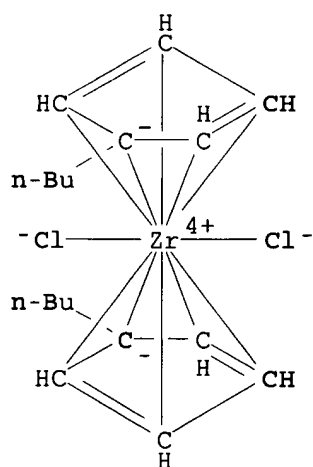
PRIORITY APPLN. INFO.: JP 2000-16987
 2000
 0126

AB The comps. which release no toxic substances and show high deterioration resistance during molding, contain (A) ethylene-C3-12 α -olefin copolymers 100, (B) vitamin E 0.003-0.15, and (C) phosphate antioxidants 0.003-0.15 parts and have melt flow rate (MFR) 0.05-20 g/10 min, d. 0.910-0.960 g/cm³, and hexane-soluble matter \leq 3.0%. Medical containers manufactured by molding the comps. are also claimed. Ethylene-hexene copolymer (prepared using bis(n-butylcyclopentadienyl)zirconium dichloride catalyst in the presence of triethylaluminum) 100, α -tocopherol 0.10, and bis(2,4-di-tert-butylphenyl)pentaerythritol diphosphite 0.10 part were mixed and pelletized. The pellets were made into an inflation film which contained only 3 gel particles.

IT 73364-10-0
 (polyethylene resin comps. for medical containers containing vitamin E and phosphate antioxidants)

RN 73364-10-0 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM A61J001-10
 ICS A61M005-14; C08F004-642; C08F004-74; C08F210-02; C08J005-00;
 C08K005-00; C08K005-1545; C08K005-524; C08L023-08

CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 38
IT 97-93-8, uses 73364-10-0
(polyethylene resin compns. for medical containers containing
vitamin E and phosphate antioxidants)

L43 ANSWER 22 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:324491 HCAPLUS
DOCUMENT NUMBER: 134:327512
TITLE: Polymer compositions and beverage containers
therefrom with high strength and no
contamination of beverage
INVENTOR(S): Naka, Zenpei
PATENT ASSIGNEE(S): Nippon Polychemicals Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001123022	A2	20010508	JP 1999-301970	1999 1025

PRIORITY APPLN. INFO.: JP 1999-301970

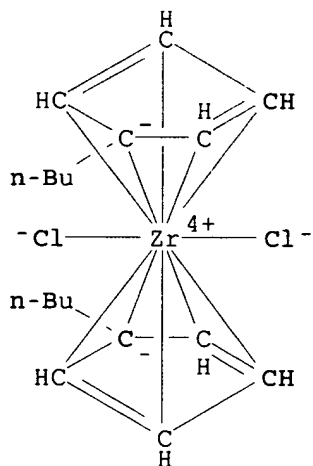
1999
1025

AB The compns., useful for bag-in-box, etc., comprise ethylene-C3-12
 α -olefin copolymer 100, inorg. compound particles with average
particle diameter 0.1-7.0 μ m, oil absorption \geq 50 mL/100 g,
and water content \leq 6% 0.03-1.5, and α -tocopherol
0.003-0.20 parts and have MFR 0.05-15 g/10 min, d. 0.880-0.940
g/cm³, hexane insol. fraction \leq 3.0%, and Mw/Mn 1.5-4.0.
The composition containing ethylene-1-hexene copolymer [prepared by using
bis(n-butylcyclopentadienyl)zirconium dichloride] 100,
 α -tocopherol 0.05, and silica (Mizukasil P 527) 0.15 parts
showed no break at dart impact test.

IT 73364-10-0, Bis(n-butylcyclopentadienyl)zirconium
dichloride
(polymerization catalyst; polymer compns. for beverage containers with
high strength and no contamination of beverage)

RN 73364-10-0 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-
yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM C08L023-08
 ICS B65D001-09; C08J005-00; C08K003-34; C08K005-1545;
 C08K005-521; C08K007-18
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 17
 IT 73364-10-0, Bis(n-butylcyclopentadienyl)zirconium
 dichloride 182636-27-7, ME 100
 (polymerization catalyst; polymer compns. for beverage containers with
 high strength and no contamination of beverage)

L43 ANSWER 23 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:157506 HCAPLUS
 DOCUMENT NUMBER: 134:208923
 TITLE: Manufacture of ethylene- α -olefin
 copolymer hollow moldings with reduced
 bleeding, and containers
 INVENTOR(S): Tsuji, Yoichiro; Iwamasa, Kenji
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001058349	A2	20010306	JP 2000-168379	2000 0606
TW 552190	B	20030911	TW 2000-89111531	2000 0613
US 6524520	B1	20030225	US 2000-593524	2000 0614
CN 1120772	B	20030910	CN 2000-118683	2000 0614

PRIORITY APPLN. INFO.:

JP 1999-169136

A

1999

0616

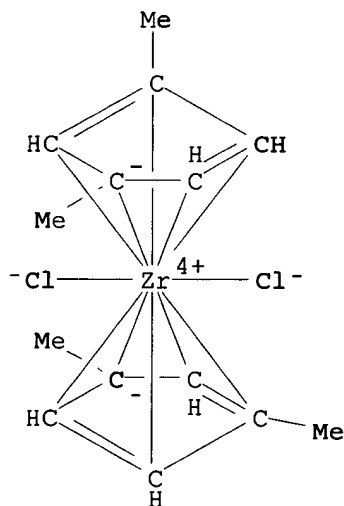
AB The moldings, useful for food containers, are manufactured by blow molding of parisons containing ≥ 1 ethylene- α -olefin copolymer layers having d. 0.880-0.970 g/cm³, MFR 0.01-10 g/10 min, MT > 2.2 x MFR - 0.84 [MT = melt tension (g) at 190°], $W < 80 \times \exp[-100(d-0.88)] + 0.1$ [W = decane-soluble fraction (%) at 23°], DSC melting peak (°) < 400 x d - 248 at specific relationship among extrusion pressure (kg/cm²), parison temperature (°), extrusion rate (kg/h), die cross-sectional area (cm²), and MFR (g/10 min) (definition given). Thus, a parison containing ethylene-1-hexene copolymer manufactured using bis(1,3-dimethylcyclopentadienyl)zirconium dichloride and Me aluminoxane reduced draw-down. The parison was blow-molded to give a bottle showing high strength.

IT 119445-92-0, Bis(1,3-dimethylcyclopentadienyl)zirconium dichloride

(catalyst; manufacture of ethylene- α -olefin copolymer hollow moldings with reduced bleeding for containers)

RN 119445-92-0 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5- η)-1,3-dimethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



IC ICM B29C049-04

ICS B65D001-09; C08J005-00; B29K023-00; B29L022-00; C08L023-08

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 17

IT 119445-92-0, Bis(1,3-dimethylcyclopentadienyl)zirconium dichloride

(catalyst; manufacture of ethylene- α -olefin copolymer hollow moldings with reduced bleeding for containers)

L43 ANSWER 24 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:40156 HCAPLUS

DOCUMENT NUMBER: 134:117024

TITLE: Olefinic thermoplastic elastomer-based sealing components for automobiles

INVENTOR(S): Kobayashi, Kyoko; Ito, Yuichi; Uchiyama, Akira; Kawasaki, Masaaki
 PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001011247	A2	20010116	JP 1999-181024	1999 0628

PRIORITY APPLN. INFO.: JP 1999-181024

1999
0628

AB Title components comprise (A) 10-60 parts crystalline polyolefins and (B) 40-90 parts ethylene- α -olefin-nonconjugated polyene rubbers, which are thermoplastic elastomers obtained by random polymerization of ethylene, C3-20 α -olefins, and nonconjugated polyenes in the presence of metallocene catalysts and crosslinking, have molar ratios of units derived from ethylene to units derived from C3-20 α -olefins 40/60-95/5, iodine values 1-50, and limiting viscosities in 135° decalin 1.0-10 dL/g, and are dynamically heat treated in extrusion under conditions satisfying $5.5 < 2.2 \log X + \log Y - \log Z + (T - 180)/100 < 6.5$, where T = resin temperature at die exit of extruder (°), X = screw diameter of extruder (mm), Y = maximum shearing velocity in extruder (sec⁻¹), Z = extrusion output (kg/h), and A + B = 100 parts. Thus a composition comprising ethylene-1-butene-5-ethylidene-2-norbornene rubber prepared using rac-dimethylsilylenebis(2-methyl-4-phenyl-1-indenyl)zirconium dichloride and methylaluminoxane 60, polypropylene 40, Diana Process PW 380 33, 2,5-dimethyl-2,5-di(tert-butylperoxy)hexane 0.36, and divinylbenzene 0.53 parts gave a seal component with good sealing property, tensile strength, and elongation at break.

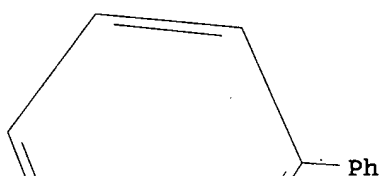
IT 153882-67-8, Rac-dimethylsilylenebis(2-methyl-4-phenyl-1-indenyl)zirconium dichloride

(catalyst in preparation of elastomer; olefinic thermoplastic elastomer-based sealing components for automobiles)

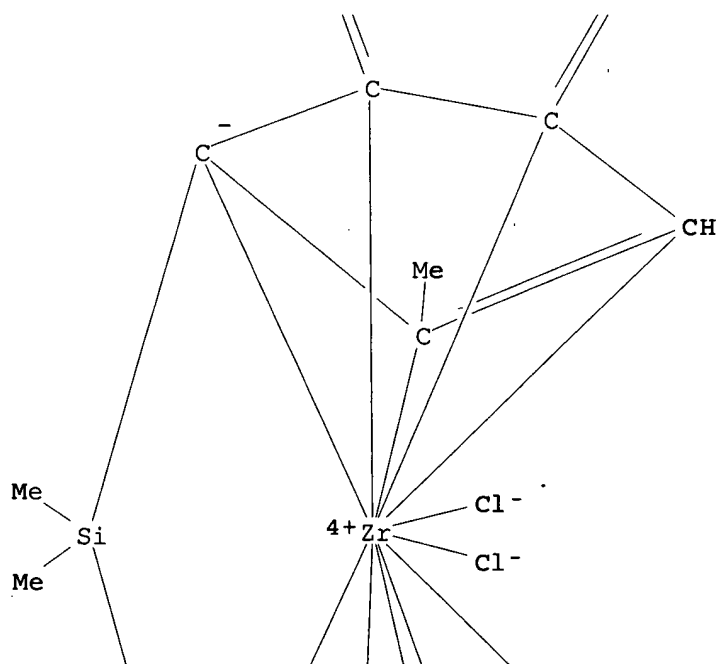
RN 153882-67-8 HCAPLUS

CN Zirconium, dichloro[rel-(1R,1'R)-(dimethylsilylene)bis[(1,2,3,3a,7a- η)-2-methyl-4-phenyl-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

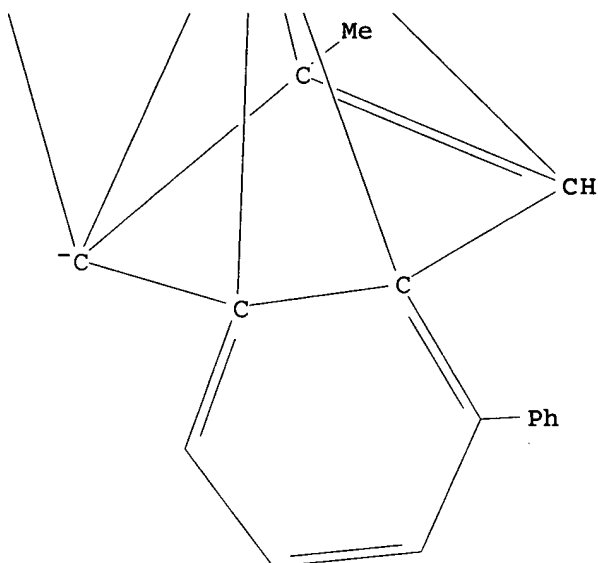
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IC ICM C08L023-00
 ICS B29C047-92; B60J010-08; B29K019-00
 CC 39-15 (Synthetic Elastomers and Natural Rubber)
 IT 153882-67-8, Rac-dimethylsilylenebis(2-methyl-4-phenyl-1-indenyl)zirconium dichloride
 (catalyst in preparation of elastomer; olefinic thermoplastic elastomer-based sealing components for automobiles)

L43 ANSWER 25 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:18979 HCAPLUS
 DOCUMENT NUMBER: 134:72779
 TITLE: Alpha-olefin-polyene random copolymer-containing rubber compositions for use in tire treads with good rolling properties
 INVENTOR(S): Murakami, Hidetatsu; Okada, Keiji; Kawasaki, Masaaki; Ichino, Kotaro
 PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001002733	A2	20010109	JP 1999-178792	1999 0624
PRIORITY APPLN. INFO.:			JP 1999-178792	1999 0624

AB The compns. comprise (A) copolymers derived from propylene, 0.1-10

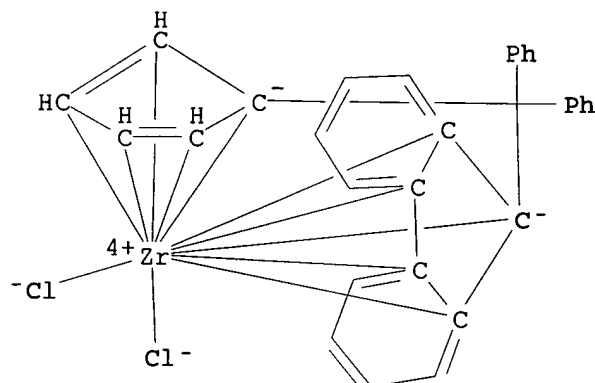
mol% non-conjugated polyenes and optionally other α -olefins and having intrinsic viscosity ($[\eta]$; in Decalin at 135°) 0.05-10 dL/g, crystallinity <15%, and (B) diene rubbers at an A/B ratio of 60-0.1:40-99. Thus, preparing a propylene-ethylene-4-ethylidene-8-methyl-1, 7-nonadiene 91:5:4 random copolymer (I) with I number 44, $[\eta]$ 2.4 dL/g, crystallinity 0%, and T_g - 16° with a catalyst system comprising (tert-butylamido)dimethyl(tetramethyl): mixing 30 parts I with 70 parts SBR, S, and other additives, and vulcanizing gave a composition with tensile at break 21 MPa, elongation 470%, good ozone resistance, and $\tan\delta$ 0.27 and 0.15 at 0 and 50°, resp.

IT 132510-07-7

(α -olefin-polyene random copolymer-containing rubber compns. for use in tire treads with good rolling properties)

RN 132510-07-7 HCAPLUS

CN Zirconium, dichloro[η 10-2,4-cyclopentadien-1-ylidene(diphenylmethylene)-9H-fluoren-9-ylidene]- (9CI) (CA INDEX NAME)



IC ICM C08F210-06

ICS B60C001-00; C08J005-00; C08L021-00; C08L023-14; C08F210-06; C08F236-00; C08F210-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)

IT 132510-07-7 135072-61-6 136040-19-2

(α -olefin-polyene random copolymer-containing rubber compns. for use in tire treads with good rolling properties)

L43 ANSWER 26 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:907017 HCAPLUS

DOCUMENT NUMBER: 134:43236

TITLE: Ethylene- α -olefin copolymer films and hot-melt packaging bags therefrom with high strength and excellent moldability

INVENTOR(S): Yamamoto, Akihiko; Takahashi, Mamoru

PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000355359	A2	20001226	JP 1999-165109	1999 0611

PRIORITY APPLN. INFO.:

JP 1999-165109

1999
0611

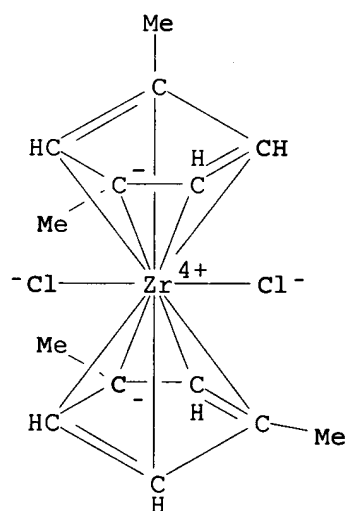
AB The films with dart impact strength (200- μ m thickness) ≥ 1000 g, useful for traffic paint packaging, are manufactured by molding ethylene-C3-20 α -olefin copolymers with MT $\leq 2.2 + \text{MFR} - 0.84$ [MT = melt tension (g) at 190°; MFR = melt flow rate (g/10 min)] under conditions satisfying $200 + [(K/\text{MRF}1.5)/(T - 120)/A0.2]0.2 \leq P \leq 450 + [(K/\text{MRF}1.5)/(T - 120)/A0.2]0.2$, where P is resin pressure (kg/cm²), T is resin temperature (°C), K is extrusion rate (kg/h), and A is lip area (cm²). Thus, a 85:15:30 mixture of a metallocene-type ethylene-1-hexene copolymer (d. 0.905 g/cm³, maximum peak temperature in DSC 92.0°, decane soluble fraction 1.4%), LDPE (d. 0.922 g/cm³), and CaCO₃ was inflation molded into a film with dart impact strength ≥ 1300 . A traffic paint manufactured from 3.65 g the film and 100 g Hi-rez R 500X (maleic anhydride-modified hydrocarbon resin) showed good flowability and compression strength.

IT 119445-92-0, Bis(1,3-dimethylcyclopentadienyl)zirconium dichloride

(polymerization catalyst; ethylene-olefin copolymer films for hot-melt traffic paints)

RN 119445-92-0 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5- η)-1,3-dimethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



IC ICM B65D065-46

ICS B29C047-08; B65D030-02; C08F210-02; C08J005-18; C08L023-08;
C08L023-06; B29K023-00; B29L007-00

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 42

IT 100-99-2, Triisobutylaluminum, uses 119445-92-0,
Bis(1,3-dimethylcyclopentadienyl)zirconium dichloride
(polymerization catalyst; ethylene-olefin copolymer films for hot-melt
traffic paints)

L43 ANSWER 27 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:828783 HCAPLUS

DOCUMENT NUMBER: 133:363620

TITLE: Polyethylene multilayered containers having
excellent rigidity and impact resistance at
low temperature

INVENTOR(S): Kawachi, Shuji; Shigemoto, Hiromi; Terashi,
Yuichiro; Sawada, Yuji

PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000326461	A2	20001128	JP 1999-142333	1999 0521

PRIORITY APPLN. INFO.: JP 1999-142333

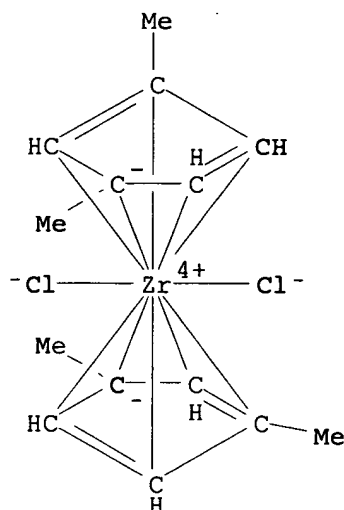
1999
0521

AB The containers comprise a substrate layer containing polyethylene having MFR measured by ASTM D 1238 (190°, 2160 g load) 0.001-0.5 g/10 min and d. 0.945-0.980 g/cm³, an adhesive layer containing unsatd. carboxylic anhydride-grafted ethylene- α -olefin copolymers, and a barrier containing 20-40 mol% ethylene containing ethylene-vinyl alc. copolymer or nylons, wherein ethylene- α -olefin copolymers have MFR 0.01-4 g/10 min, d. 0.910-0.940 g/cm³, and Mw/Mn measured by GPC 1.5-4 and satisfy the relationship of $W < 80 + \exp[-100(d - 0.88)] + 0.1$ [W = n-decane-soluble component (%), d = d. (g/cm³)] and $T_m < 400 + d - 248$ (T_m = maximum peak temperature in endothermic curve measured by DSC). Thus, a blow molded tank having polyethylene (Hi-Zex 8200B) layers, 97.7:2.3 (molar ratio) ethylene-1-hexene copolymer [manufactured by using catalyst containing bis(1,3-dimethylcyclopentadienyl)zirconium dichloride, methylaluminoxane, and Al(Bu-iso)₃] grafted with 0.2% maleic anhydride adhesive layers, and barrier layers (Eval EP F 101B) showed adhesion strength 16 kg/15 mm.

IT 119445-92-0, Bis(1,3-dimethylcyclopentadienyl)zirconium
dichloride
(catalyst; polyethylene multilayered containers having good
rigidity and impact resistance at low temperature)

RN 119445-92-0 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5- η)-1,3-dimethyl-2,4-
cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



IC ICM B32B027-32
 ICS B32B027-32; B32B001-02; B32B007-02; B32B007-12; B32B027-28;
 B32B027-34; B65D001-09
 CC 38-3 (Plastics Fabrication and Uses)
 IT 97-93-8, Triethylaluminum, uses 100-99-2, Triisobutylaluminum,
 uses 7440-32-6, Titanium, uses 119445-92-0,
 Bis(1,3-dimethylcyclopentadienyl)zirconium dichloride
 (catalyst; polyethylene multilayered containers having good
 rigidity and impact resistance at low temperature)

L43 ANSWER 28 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:658207 HCAPLUS
 DOCUMENT NUMBER: 133:253980
 TITLE: Coated steel pipes and anticorrosive and cold-
 and weather-resistant compositions for their
 coating
 INVENTOR(S): Honda, Toshio; Oda, Takeshi; Arai, Toru; Naoe,
 Takaaki
 PATENT ASSIGNEE(S): Denki Kagaku Kogyo K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000256607	A2	20000919	JP 1999-63321	1999 0310
PRIORITY APPLN. INFO.:				JP 1999-63321
				1999 0310

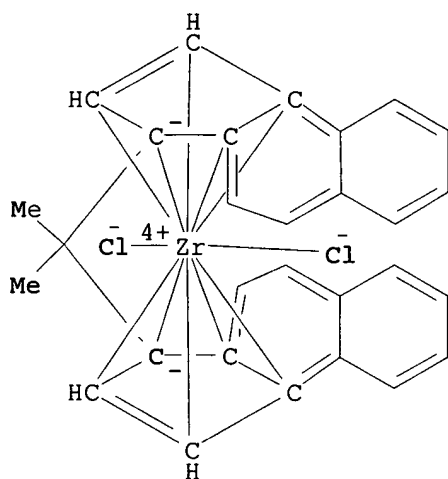
AB The pipes are coated with a composition containing aromatic vinyl- α -olefin random copolymer with isotactic diad fraction 0.5-1 directly or via a primer or adhesive layer. Thus, priming a

steel pipe which had been degreased and chromated with an epoxy resin to primer thickness of 20-40 μm , thermally curing, extrusion coating the inner surface of the pipe with a maleated polyethylene and the outer surface of the pipe with a styrene-ethylene copolymer having styrene content 43.2%, Mw 40.5x104, Mn 21.2x104, Tg 27.6° and m.p. 85 and cooling gave a coated pipe with good impact resistance.

IT 204654-61-5, Racemic isopropylidenebis(4,5-benzoindenyl)zirconium dichloride
(polymerization catalyst; coated steel pipes and anticorrosive and cold- and weather-resistant compns. for coating)

RN 204654-61-5 HCAPLUS

CN Zirconium, dichloro[(1-methylethylidene)bis[(1,2,3,3a,9b- η)-3H-benz[e]inden-3-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)



IC ICM C09D123-08
ICS C08F004-642; C08F210-02; C08F212-08

CC 42-10 (Coatings, Inks, and Related Products)

IT 135072-61-6, (tert-Butylamido)dimethyl(tetramethyl- η^5 -cyclopentadienyl)silane titanium dichloride 204654-61-5,
Racemic isopropylidenebis(4,5-benzoindenyl)zirconium dichloride
(polymerization catalyst; coated steel pipes and anticorrosive and cold- and weather-resistant compns. for coating)

L43 ANSWER 29 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:426895 HCAPLUS

DOCUMENT NUMBER: 133:64075

TITLE: Propylene random copolymers, their compositions, and medical containers

INVENTOR(S): Miyazaki, Tadao; Tayano, Takao

PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000178319

A2

20000627

JP 1998-354246

1998

1214

PRIORITY APPLN. INFO.:

JP 1998-354246

1998

1214

OTHER SOURCE(S): MARPAT 133:64075

AB The propylene (I) random copolymers (other C2-10 α -olefins content 0.5-8.0 mol%) for medical containers are prepared by copolymn. in the presence of metallocene catalysts and show melt flow rate (MFR; JIS K 7210, 230°, 2.16 kg load) 0.1-30 g/10 min, melting peak temperature (DSC) $\geq 120^\circ$, and flexural rigidity (JIS K 7106) ≤ 7000 kg/cm². The compns. contain the I random copolymers above and ≤ 40 weight% olefin copolymer elastomers or styrene copolymer elastomers. Ethylene-I random copolymer (ethylene content 2.6 mol%) (prepared with metallocene catalysts; MFR 3.1 g/10 min, memory effect 1.1, melting peak temperature 134°, flexural rigidity 6850 kg/cm²) was kneaded with Irganox 1010 and blow-molded to give infusion bags showing good moldability, transparency, flexibility, impact resistance, and thermal stability (115°).

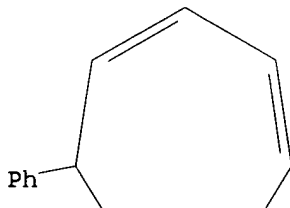
IT 175649-10-2 188762-34-7

(metallocene-type propylene random copolymers and rubber blends with good moldability for impact-resistant flexible transparent medical containers)

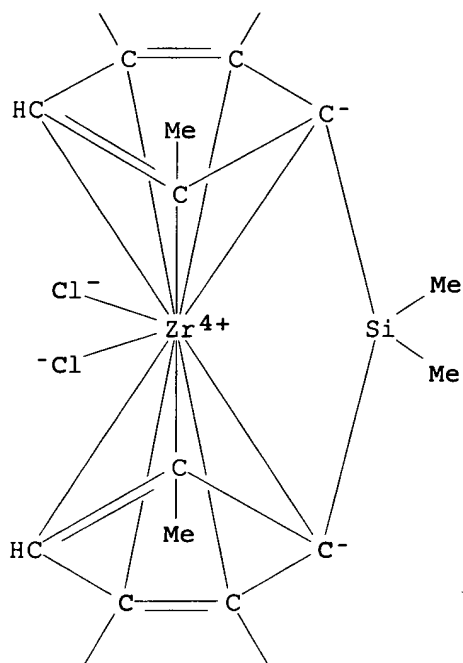
RN 175649-10-2 HCAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,8a- η)-2-methyl-4-phenyl-1(4H)-azulenylidene]]- (9CI) (CA INDEX NAME)

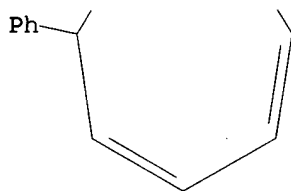
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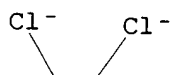


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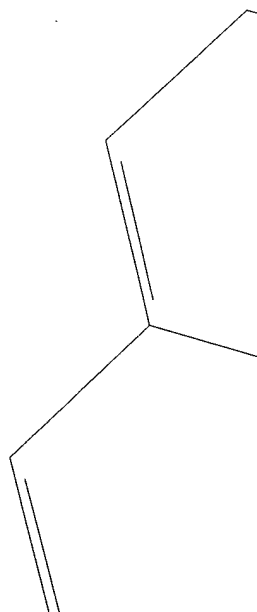


RN 188762-34-7 HCAPLUS
 CN Zirconium, dichloro[rel-(1R,1'R)-(dimethylsilylene)bis[(1,2,3,3a,9
 b-η)-2-methyl-1H-benz[e]inden-1-ylidene]]-(9CI) (CA INDEX
 NAME)

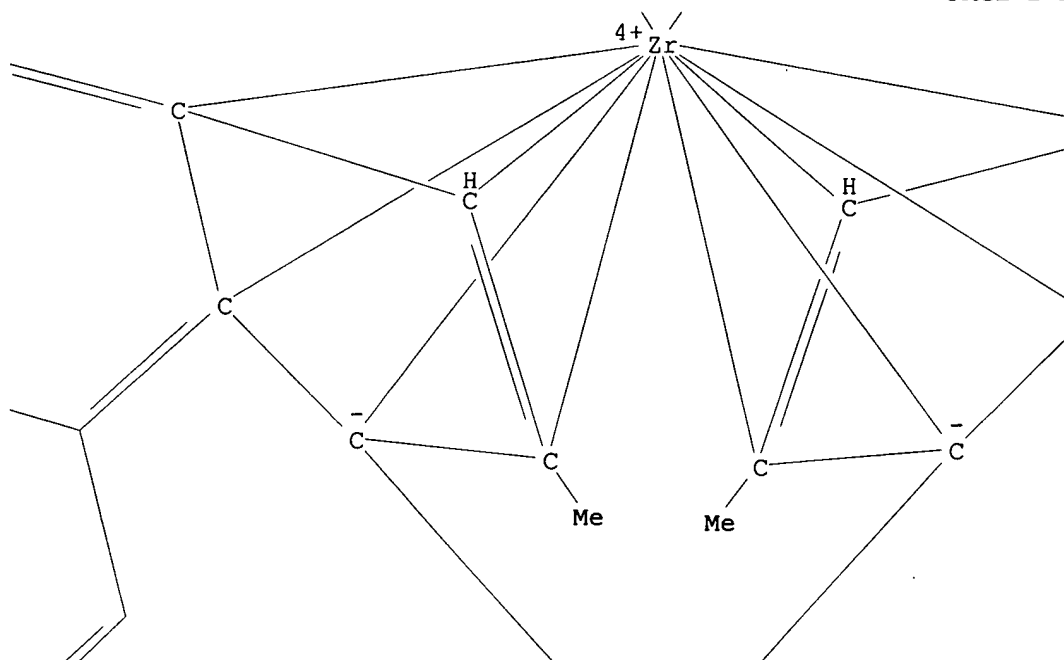
PAGE 1-B



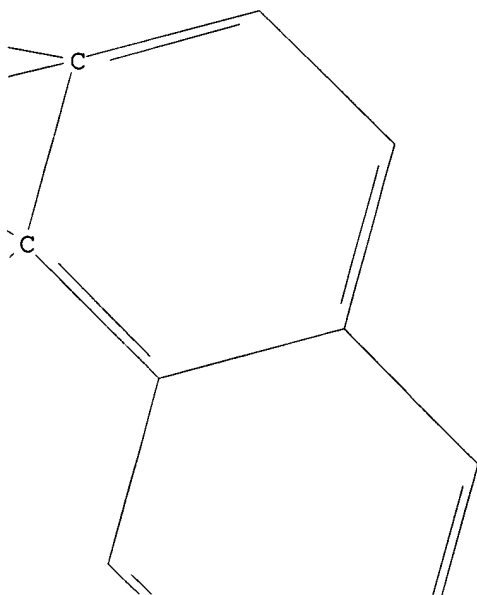
PAGE 2-A



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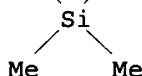


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PAGE 3-C

IC ICM C08F210-06
ICS A61J001-10; C08K005-527; C08L023-14; C08L023-16; C08L053-02
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 35, 39
IT 175649-10-2 188762-34-7
(metallocene-type propylene random copolymers and rubber blends
with good moldability for impact-resistant flexible transparent
medical containers)

L43 ANSWER 30 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:401510 HCAPLUS
DOCUMENT NUMBER: 133:31606
TITLE: Polyolefin-based hollow vessel for heat
sterilization
INVENTOR(S): Kagami, Mamoru; Maeda, Seiki; Tanaka, Yasuo
PATENT ASSIGNEE(S): Mitsui Chemicals, Inc., Japan
SOURCE: Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1008626	A1	20000614	EP 1999-123988	1999 1207
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
KR 2000047893	A	20000725	KR 1999-54705	

				1999
				1203
JP 2000230088	A2	20000822	JP 1999-346183	
				1999
				1206
TW 461909	B	20011101	TW 1999-88121304	
				1999
				1206
CN 1259467	A	20000712	CN 1999-127873	
				1999
				1207
US 6242535	B1	20010605	US 1999-455795	
				1999
				1207
PRIORITY APPLN. INFO.:			JP 1998-347560	A
				1998
				1207

AB A hollow vessel for heat sterilization, which is superior in transparency and in impact resistance with low odor, is made of a polyolefin resin having characteristic properties comprising an underwater light transmittance of 70-99% resulting from determination of light transmission at a wave length of 450 nm for a resin specimen of a thickness of 0.5 mm which has been subjected to a heat sterilization treatment with steam at a temperature of 121°C for 20 min; a tensile elastic modulus of 200-700 MPa for a resin specimen of a thickness of 0.5 mm which has been subjected to a heat sterilization treatment with steam; a haze value difference ΔHaze of 1-20% for a resin specimen of a thickness of 0.5 mm resp. before and after a heat sterilization treatment thereof with steam; and a high-speed impact strength of 1.5-10 J, determined on an impact test at 0°C as the total rupture energy required for rupturing a resin specimen of 0.5 mm + 9 cm + 9 cm which has been subjected to a heat sterilization treatment with steam, wherein the impact test is carried out by settling the specimen on a jig having a hole of 1 in. diameter for receiving an impinging weight having an impact top of a diameter of 0.5 in. and causing the weight to impinge thereonto at an impingement speed of 3 m/s.

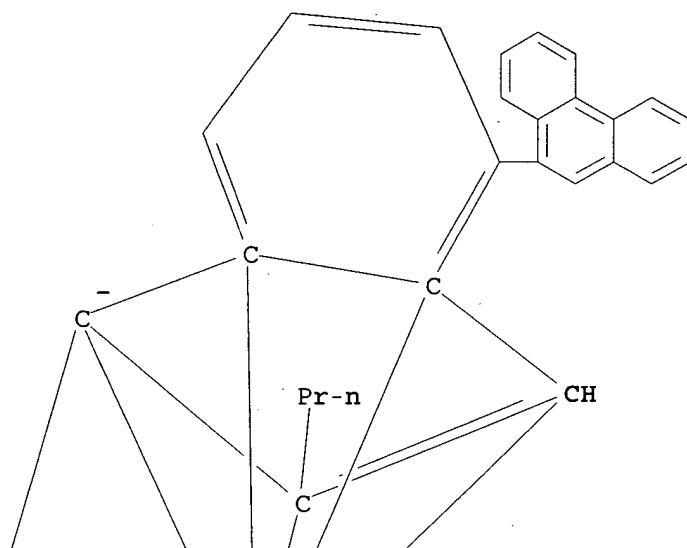
IT 164719-16-8

(polyolefin-based hollow vessel for heat sterilization)

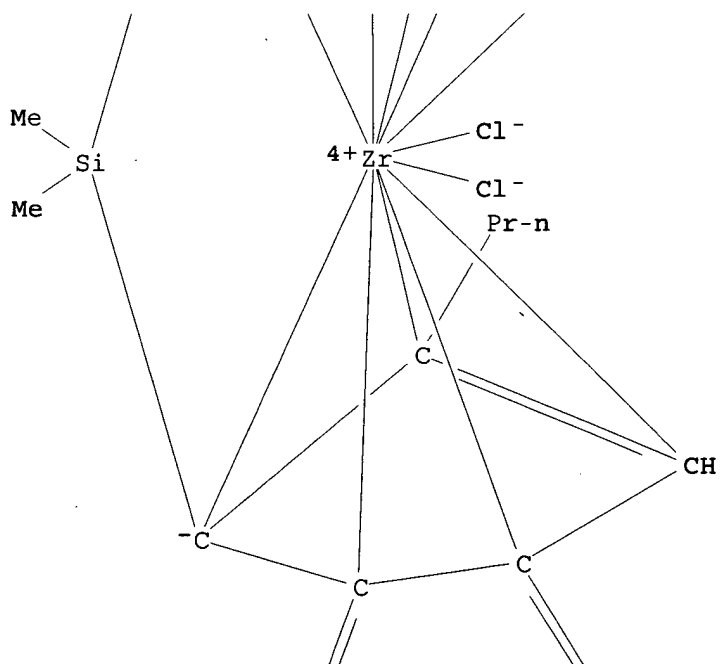
RN 164719-16-8 HCAPLUS

CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a-η)-4-(9-phenanthrenyl)-2-propyl-1H-inden-1-ylidene]]-, stereoisomer (9CI)
(CA INDEX NAME)

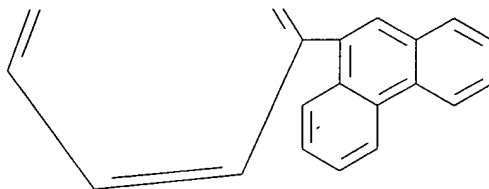
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PAGE 3-A



IC ICM C08L023-10
 ICI C08L023-10, C08L023-08, C08L023-14
 CC 38-3 (Plastics Fabrication and Uses)
 IT 100-99-2, Triisobutylaluminum, uses 164719-16-8
 (polyolefin-based hollow vessel for heat sterilization)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 31 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:302200 HCAPLUS
 DOCUMENT NUMBER: 132:309176
 TITLE: Aromatic vinyl- α -olefin random copolymer
 compositions, and moldings and sealants using
 them
 INVENTOR(S): Suzuki, Shigeru; Oda, Takeshi; Honda, Toshio;
 Arai, Akira
 PATENT ASSIGNEE(S): Denki Kagaku Kogyo K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000129043	A2	20000509	JP 1998-301802	1998 1023
PRIORITY APPLN. INFO.:				JP 1998-301802
				1998 1023

OTHER SOURCE(S): MARPAT 132:309176
 AB The comps. contain ≥ 2 kinds of aromatic vinyl- α -olefin
 random copolymers having difference in ≥ 1 of the following
 properties: (1) comps.: ≥ 2 mol% difference in the content
 of aromatic vinyl compds., (2) mol. wts.: $\geq 10\%$ difference in
 Mw, (3) mol. weight distributions: ≥ 0.1 difference in Mw/Mn,
 and/or (4) thermal properties: ≥ 0.5 J/g difference in the
 endothermic peaks at 0-180° in DSC. Thus, styrene was
 polymerized with ethylene in the presence of (iso-Bu)₃Al,
 methylalumoxane, and rac-dimethylmethylenebis(4,5-benzo-1-
 indenyl)zirconium dichloride (preparation given) to give
 ethylene-styrene random copolymer (I) (styrene content 26 mol%,
 isotactic dyad fraction > 0.95 , Mw/Mn 2.2, DSC peak 3.8 J/g at
 44.1°), 70 parts of which was kneaded with 30 parts I

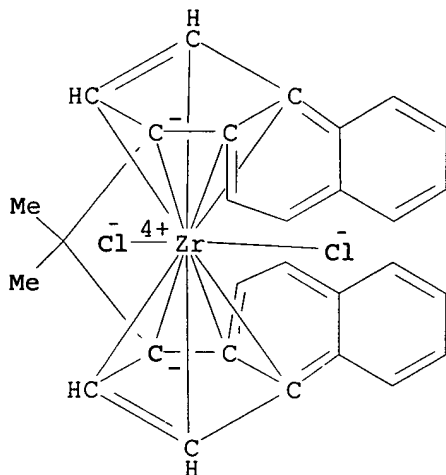
(styrene content 10 mol%, isotactic dyad fraction >0.95, Mw/Mn 2.3, DSC peak 35.1 J/g at 65.5°) to give a composition showing tensile modulus 8 MPa, elongation at break 500%, haze 90%, and Shore D hardness 21.

IT 204654-61-5P 214835-96-8P

(metallocene-type isotactic ethylene-styrene copolymer blends for moldings and sealants)

RN 204654-61-5 HCAPLUS

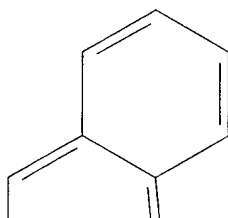
CN Zirconium, dichloro[(1-methylethylidene)bis[(1,2,3,3a,9b-η)-3H-benz[e]inden-3-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)



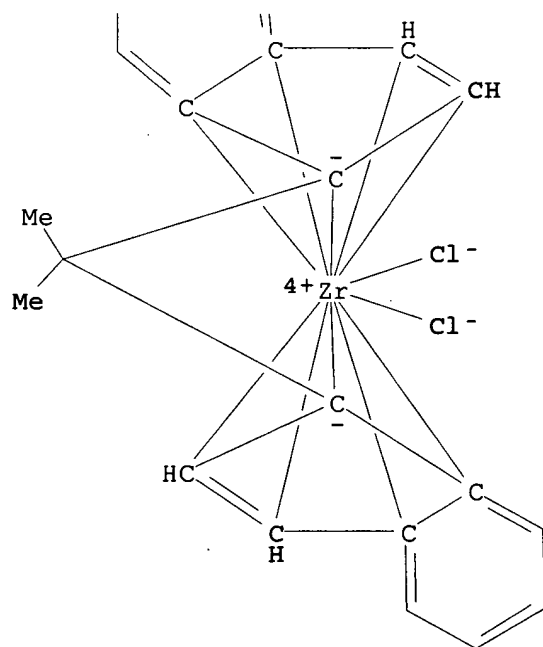
RN 214835-96-8 HCAPLUS

CN Zirconium, [η10-3H-benz[e]inden-3-ylidene(1-methylethylidene)-1H-inden-1-ylidene]dichloro-, stereoisomer (9CI) (CA INDEX NAME)

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IC ICM C08L023-02
 ICS C08F004-642; C08F210-02; C08F212-08; C08J005-00; C08J005-18;
 C08J009-04; C08L025-08; C09K003-10

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 29, 38, 42, 67
IT 204654-61-5P 214835-96-8P
(metallocene-type isotactic ethylene-styrene copolymer blends
for moldings and sealants)

L43 ANSWER 32 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:266176 HCAPLUS
DOCUMENT NUMBER: 132:280235
TITLE: Transparent multilayer olefin polymer films
and containers therefrom
INVENTOR(S): Nishitoba, Yukiko; Ota, Takeshi; Naoe,
Takanori; Arai, Toru
PATENT ASSIGNEE(S): Denki Kagaku Kogyo K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000117914	A2	20000425	JP 1998-295122	1998 1016

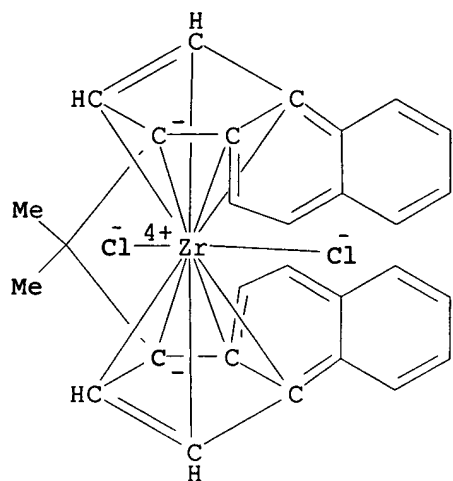
PRIORITY APPLN. INFO.: JP 1998-295122
1998
1016

AB The films, useful for stretchable, shrinkable, gas-barrier, and heat-sealable packaging materials, have ≥ 1 layer(s) from resin comps. containing $\geq 5\%$ aromatic vinyl- α -olefin random copolymers (aromatic vinyl content ≥ 1 and < 99.9 mol.%) having ≥ 2 head-to-tail linkages of aromatic vinyl units. Thus, styrene was polymerized with ethylene in the presence of (iso-Bu) $_3$ Al, methylalumoxane, and rac-dimethylmethylenebis(4,5-benzo-1-indenyl)zirconium dichloride (preparation given) to give a random copolymer (styrene content 4.8 mol%, isotactic dyad fraction > 0.95 , Mw/Mn 2.0), which was sandwiched between EVA (NUC 3753) and extruded to give a 30 μ m-thick 3-layer film showing haze 6.7% (thickness 0.5 mm) and good breaking strength and tensile modulus in the machine and transverse directions.

IT 204654-61-5P 214835-96-8P 214835-99-1P
(transparent multilayer packaging films containing metallocene-type isotactic ethylene-styrene copolymer for containers)

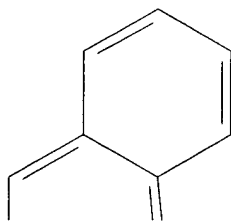
RN 204654-61-5 HCAPLUS

CN Zirconium, dichloro[(1-methylethylidene)bis[(1,2,3,3a,9b- η)-3H-benz[e]inden-3-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

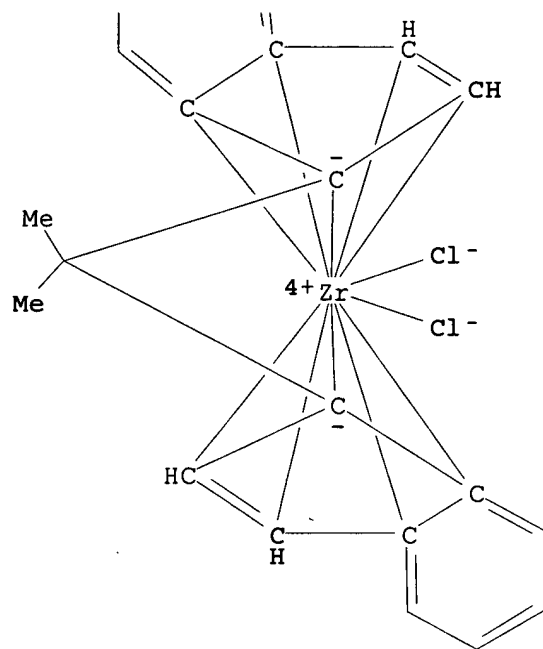


RN 214835-96-8 HCAPLUS
CN Zirconium, [η^{10} -3H-benz[e]inden-3-ylidene(1-methylethylidene)-
1H-inden-1-ylidene]dichloro-, stereoisomer (9CI) (CA INDEX NAME)

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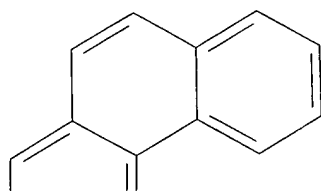


PAGE 2-A

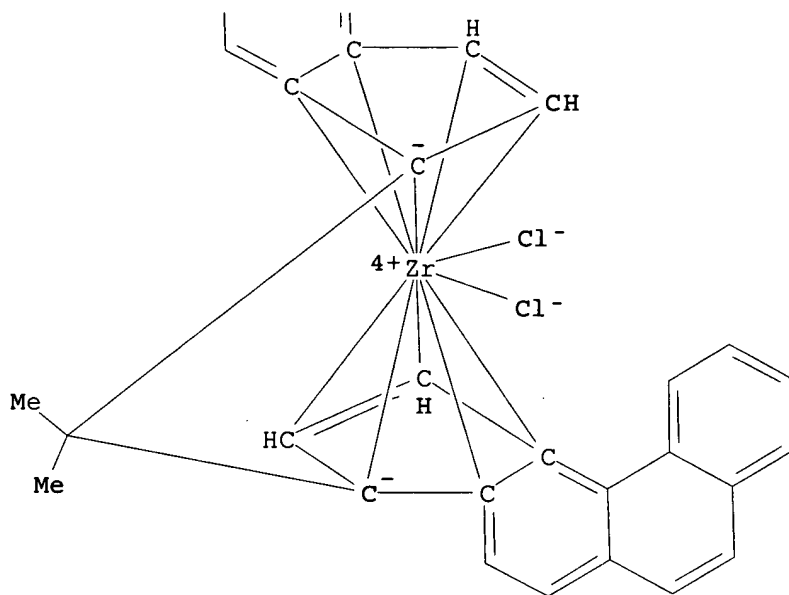


RN 214835-99-1 HCAPLUS
 CN Zirconium, dichloro[(1-methylethylidene)bis[(1,2,3,3a,11c-η)-3H-cyclopenta[c]phenanthren-3-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

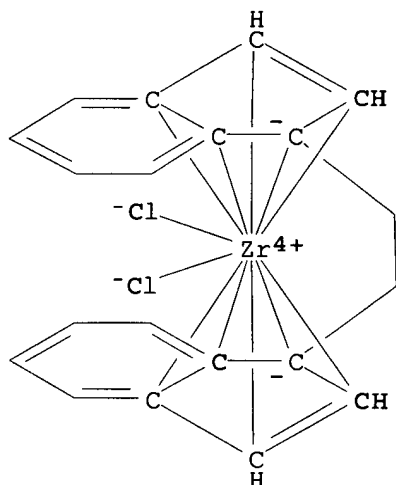


IC ICM B32B027-30
 ICS B32B027-32; C08F212-00; C08F004-642; C08F210-00
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 17, 29, 35, 67
 IT 204654-61-5P 214835-96-8P 214835-99-1P
 (transparent multilayer packaging films containing metallocene-type
 isotactic ethylene-styrene copolymer for containers)

L43 ANSWER 33 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:218515 HCAPLUS
 DOCUMENT NUMBER: 132:252168
 TITLE: Heat-resistant containers having
 ethylene-olefin copolymer layers
 INVENTOR(S): Furuta, Hiroshi; Tomiyama, Masato; Ando,
 Tsutomu
 PATENT ASSIGNEE(S): Tosoh Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000095226	A2	20000404	JP 1998-269532	1998 0924
PRIORITY APPLN. INFO.:			JP 1998-269532	1998 0924

- AB The containers, useful for pharmaceuticals, foods, and cosmetics, have layers containing ethylene-C3-20 α -olefin copolymers with d. 0.920-0.960 g/cm³, melt flow rate 0.1-10 g/10 min at 190° under 2160-g load, Mw/Mn 1.5-3, one m.p. (by DSC), ash content $\leq 0.02\%$, and n-heptane extraction amount $\leq 0.02\%$ at 50°. Thus, ethylene and 1-butene were polymerized in the presence of (Iso-Bu)₃Al, ethylenebisindenylzirconium dichloride, and a reaction product of Davison 948 (SiO₂), p-(N,N-dimethylamino)phenyltrimethoxysilane, and Li tetrakis(pentafluorophenyl)borate and molded into a container showing no distortion, light transmittance 64%, and number of microparticles 8/10 mL after sterilization at 121° for 20 min.
- IT 112243-78-4, Ethylenebis(indenyl)zirconium dichloride (polymerization catalyst; heat-resistant containers having metallocene-catalyzed ethylene-olefin copolymer layers)
- RN 112243-78-4 HCAPLUS
- CN Zirconium, dichloro[1,2-ethanediylbis[(1,2,3,3a,7a- η)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)



- IC ICM B65D001-09
- ICS A61J001-10; C08L023-08
- CC 38-3 (Plastics Fabrication and Uses)
- IT 100-99-2, Triisobutylaluminum, uses 2797-28-6, Lithium tetrakis(pentafluorophenyl)borate 17021-95-3 112243-78-4, Ethylenebis(indenyl)zirconium dichloride (polymerization catalyst; heat-resistant containers having metallocene-catalyzed ethylene-olefin copolymer layers)
- L43 ANSWER 34 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
- ACCESSION NUMBER: 2000:209683 HCAPLUS
- DOCUMENT NUMBER: 132:237543
- TITLE: Production of multimodal polyethylenes for pipes
- INVENTOR(S): Debras, Guy; Razavi, Abbas; Michel, Jacques
- PATENT ASSIGNEE(S): Fina Research S.A., Belg.
- SOURCE: Eur. Pat. Appl., 17 pp.
- CODEN: EPXXDW
- DOCUMENT TYPE: Patent

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 989140	A1	20000329	EP 1998-118190	1998 0925
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 989141	A1	20000329	EP 1998-123826	1998 1215
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
WO 2000018813	A1	20000406	WO 1999-EP7128	1999 0924
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
WO 2000018814	A1	20000406	WO 1999-EP7129	1999 0924
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9963293	A1	20000417	AU 1999-63293	1999 0924
AU 9963294	A1	20000417	AU 1999-63294	1999 0924
US 6218472	B1	20010417	US 1999-404773	1999 0924
EP 1117709	A1	20010725	EP 1999-950551	1999 0924
EP 1117709	B1	20041117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

EP 1124868	A1	20010822	EP 1999-950550	1999 0924
EP 1124868	B1	20041117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6346575	B1	20020212	US 1999-405369	1999 0924
AT 282648	E	20041215	AT 1999-950550	1999 0924
AT 282647	E	20041215	AT 1999-950551	1999 0924
ES 2232178	T3	20050516	ES 1999-950550	1999 0924
ES 2232179	T3	20050516	ES 1999-950551	1999 0924
JP 2000103813	A2	20000411	JP 1999-272842	1999 0927
JP 2000191726	A2	20000711	JP 1999-272998	1999 0927
US 2002065368	A1	20020530	US 2002-37934	2002 0104
US 6566450	B2	20030520		
US 2002099140	A1	20020725	US 2002-37504	2002 0104
US 6479589	B2	20021112		
PRIORITY APPLN. INFO.:			EP 1998-118190	A 1998 0925
			EP 1998-123826	A 1998 1215
			US 1999-405369	A3 1999 0924
			WO 1999-EP7128	W 1999 0924
			WO 1999-EP7129	W 1999 0924

OTHER SOURCE(S): MARPAT 132:237543

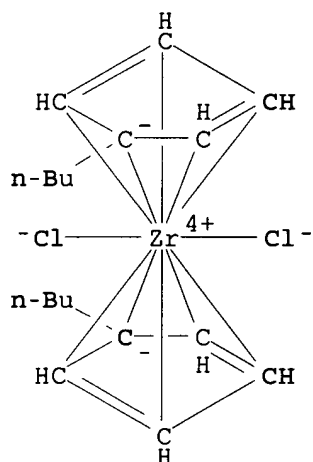
AB A process for the preparation of polyethylene resins having a multimodal mol. weight distribution comprises (i) contacting ethylene monomer and a C3-10 α -olefin comonomer with a first catalyst system in a first reactor to produce a product comprising a first

polyethylene, the first catalyst system comprising (a) a metallocene catalyst selected from components A or B, component A comprising a bistetrahydroindenyl compound and component B comprising a metallocene catalyst, the metallocene component B having a centroid-M-centroid angle in the range 105° to 125°; and (b) a cocatalyst which activates the catalyst component, (ii) providing a **second** polyethylene having a **second** lower mol. weight and higher d. than the first mol. weight; and (iii) mixing together the first and **second** polyethylenes to form a polyethylene resin having a multimodal mol. weight distribution. The polyethylenes can be mixed by phys. or chemical blending.

IT 73364-10-0 100163-29-9, Ethylene bis
(4,5,6,7-tetrahydro-1-indenyl) zirconium dichloride
185434-63-3
(production of multimodal polyethylenes for pipes)

RN 73364-10-0 HCAPLUS

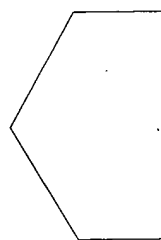
CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)



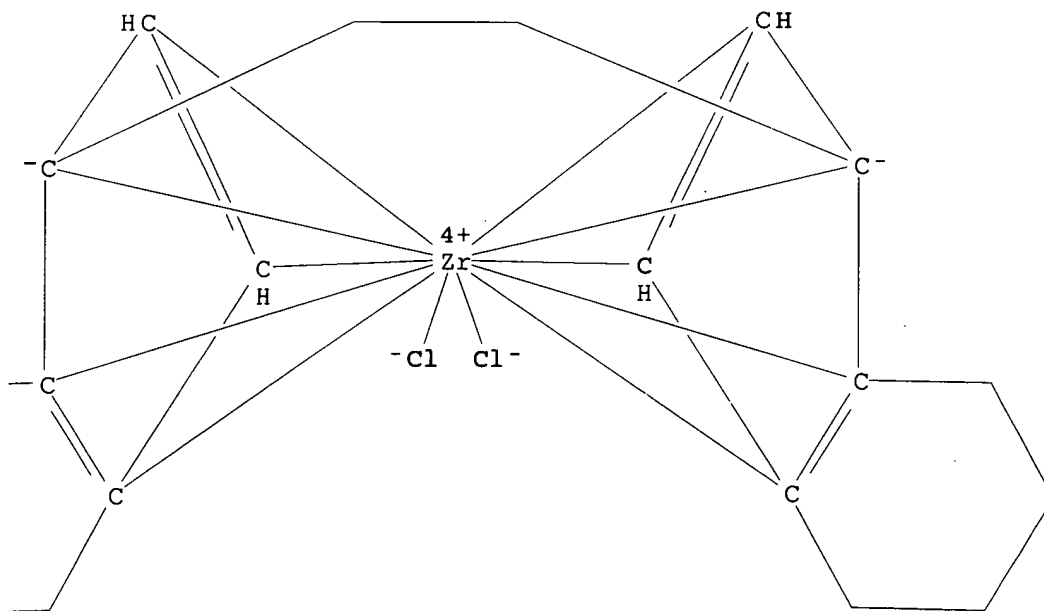
RN 100163-29-9 HCAPLUS

CN Zirconium, dichloro[rel-(7aR,7'aR)-1,2-ethanediylbis[(1,2,3,3a,7a- η)-4,5,6,7-tetrahydro-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

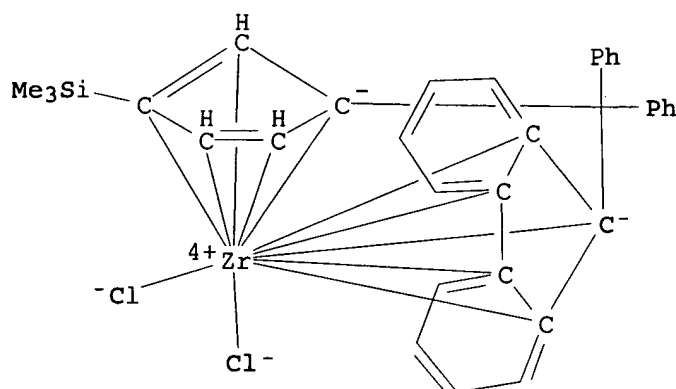
PAGE 1-A



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RN 185434-63-3 HCAPLUS
CN Zirconium, dichloro[η10-9H-fluoren-9-ylidene(diphenylmethylene)[3-(trimethylsilyl)-2,4-cyclopentadien-1-ylidene]]- (9CI) (CA INDEX NAME)



IC ICM C08F210-16
 ICS C08L023-04; C08F004-64
 CC 35-4 (Chemistry of Synthetic High Polymers)
 IT 11118-57-3, Chromium-oxide 73364-10-0
 100163-29-9, Ethylene bis (4,5,6,7-tetrahydro-1-indenyl)
 zirconium dichloride 185434-63-3
 (production of multimodal polyethylenes for pipes)
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 35 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:665190 HCAPLUS
 DOCUMENT NUMBER: 131:287483
 TITLE: Transparent propylene polymer moldings with
 excellent impact resistance
 INVENTOR(S): Tanaka, Yasuo; Nakagawa, Norihiko
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

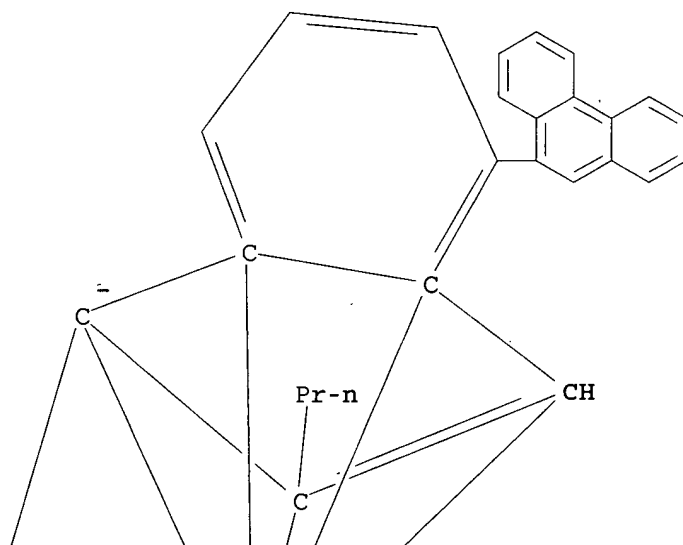
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11286584	A2	19991019	JP 1998-309192	1998 1029
PRIORITY APPLN. INFO.:			JP 1998-23678	A 1998 0204

OTHER SOURCE(S): MARPAT 131:287483
 AB The moldings, useful for containers, sheet, and films, comprise propylene polymers, and propylene (I)-ethylene (II)-1-butene (III) random copolymer bearing I unit 50-88, II unit 2-30, and III unit 10-40 mol% (III unit > II unit), and having melt flow rate (MFR, 230°, 2.16-kg load) 0.1-50 g/10 min, and Mw/Mn ≤3. Thus, 10 parts 69.3:10.2:20.5 I-II-III copolymer (MFR 1.3 g/10 min) prepared in the presence of rac-dimethylsilylenebis[1-(2-n-propyl-4-(9-phenanthrenyl)indenyl)]zirconium dichloride was

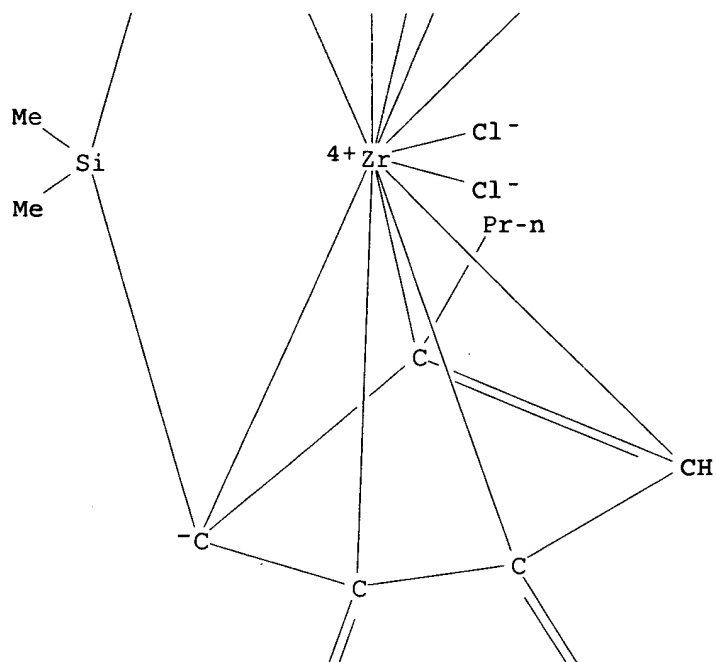
melt-kneaded with 90 parts polypropylene, pelletized, and molded into a bottle with nonsticky surface, good transparency, and impact resistance.

- IT 164719-16-8, Rac-dimethylsilylenebis[1-(2-n-propyl-4-(9-phenanthrenyl)indenyl)]zirconium dichloride
(for butene-ethylene-propylene copolymer preparation; polypropylene moldings containing butene-ethylene-propylene copolymer with good transparency and impact resistance)
- RN 164719-16-8 HCAPLUS
- CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a- η)-4-(9-phenanthrenyl)-2-propyl-1H-inden-1-ylidene]]-, stereoisomer (9CI)
(CA INDEX NAME)

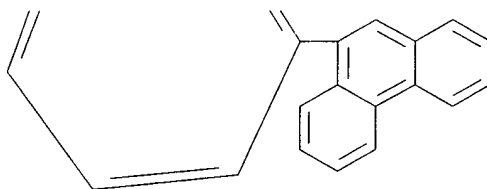
PAGE 1-A.



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IC ICM C08L023-10
 ICS B29C045-00; B29C047-00; B29C049-00; B65D001-09; C08J005-18;
 C08F004-642; C08F210-16; C08L023-10; C08L023-16; B29K023-00;
 B29L007-00; B29L022-00
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 35
 IT 100-99-2, Triisobutylaluminum, uses 164719-16-8,
 Rac-dimethylsilylenebis[1-(2-n-propyl-4-(9-phenanthrenyl)indenyl)]zirconium dichloride
 (for butene-ethylene-propylene copolymer preparation; polypropylene
 moldings containing butene-ethylene-propylene copolymer with good
 transparency and impact resistance)

L43 ANSWER 36 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1999:575579 HCAPLUS
 DOCUMENT NUMBER: 131:206014
 TITLE: Cyclic voltammetry of methyl- and
 trimethylsilyl-substituted zirconocene
 dichlorides

AUTHOR(S): Langmaier, Jan; Samec, Zdenek; Varga, Vojtech;
Horacek, Michal; Choukroun, Robert; Mach,
Karel

CORPORATE SOURCE: J. Heyrovskj Institute of Physical Chemistry,
Academy of Sciences of the Czech Republic,
Prague, 18223, Czech.

SOURCE: Journal of Organometallic Chemistry (1999),
584(2), 323-328
CODEN: JORCAI; ISSN: 0022-328X

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

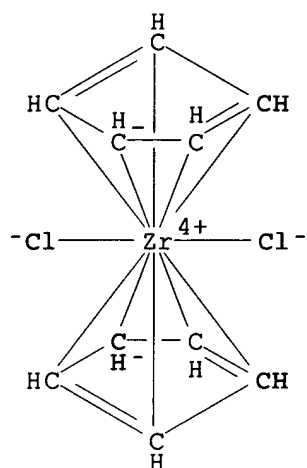
LANGUAGE: English

AB Redox properties of the substituted zirconocene dichlorides:
(C₅H₅-nMen)₂ ZrCl₂ (n = 0-5), [CH₅-n(SiMe₃)_n]₂ZrCl₂ (n = 0-3),
[C₅Me₄(SiMe₃)](C₅HMe₄)ZrCl₂ and two ansa-analogs Me₂Si(C₅H₄)₂ZrCl₂
and Me₂Si[C₅H₂(SiMe₃)₂]₂ZrCl₂ were investigated by cyclic
voltammetry on a mercury electrode in THF. In the
(C₅H₅-nMen)₂ZrCl₂ (n = 0-4) compds., standard electrode potential
(E°) of the one-electron uptake shifts to more neg. values
by 0.071 V per one Me group. A deviation from this linear
dependence to a less neg. E° is observed for (C₅Me₅)₂ZrCl₂.
This effect is attributed to the steric hindrance between rotating
C₅Me₅ ligands which tends to decrease the angle between the
cyclopentadienyl ring planes (.vphi.) and consequently, the energy
difference between MO frontier orbitals. In the
trimethylsilylated compds., the net effect of SiMe₃ is negligible,
giving virtually the same value of E° for n = 0-3. In
μ-SiMe₂-bridged ansa-compds. the difference in E° of 147
mV corresponds to the neg. shift of 37 mV per one SiMe₃ group.
Owing to the rigid angle .vphi., this shift can be tentatively
accounted for the electronic effect of the SiMe₃ groups. In the
non-ansa-compds., the neg. shift due to the electronic effect of
SiMe₃ groups is assumed to be roughly compensated by a pos. shift
resulting from a sterically controlled diminution of .vphi..

IT 1291-32-3D, Zirconocene dichloride, methyl- and
trimethylsilyl-substituted 12109-71-6 54039-38-2
119445-90-8 119445-92-0 119445-93-1
(cyclic voltammetry of methyl- and trimethylsilyl-substituted
zirconocene dichlorides)

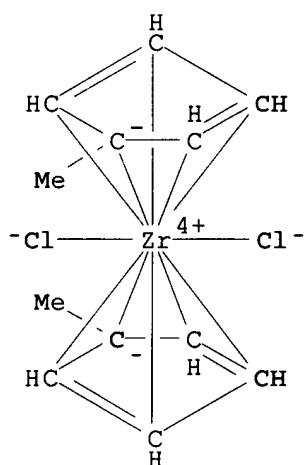
RN 1291-32-3 HCAPLUS

CN Zirconium, dichlorobis(η⁵-2,4-cyclopentadien-1-yl)- (9CI) (CA
INDEX NAME)



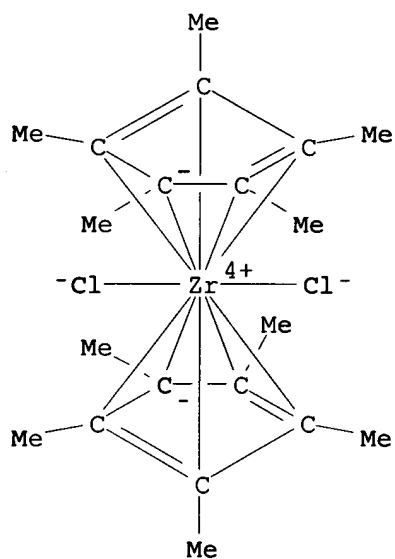
RN 12109-71-6 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



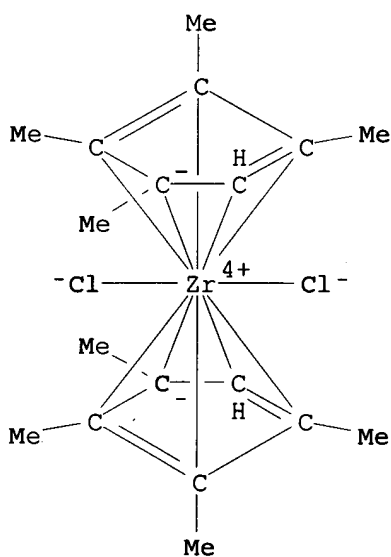
RN 54039-38-2 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



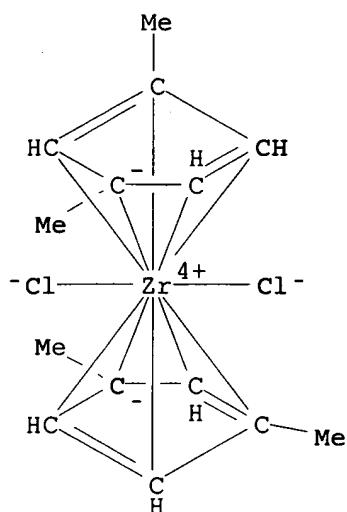
RN 119445-90-8 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5- η)-1,2,3,4-tetramethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



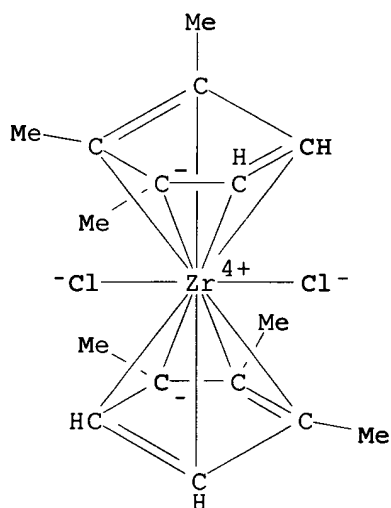
RN 119445-92-0 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5- η)-1,3-dimethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



RN 119445-93-1 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5-η)-1,2,3-trimethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



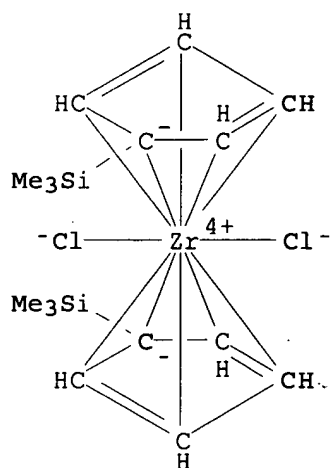
IT 60938-59-2 60938-62-7 86050-32-0

133328-55-9 241811-99-4 241812-00-0

(cyclic voltammetry of methyl- and trimethylsilyl-substituted zirconocene dichlorides on mercury electrode in THF)

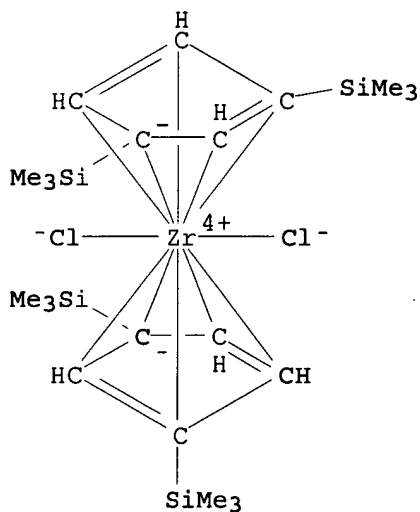
RN 60938-59-2 HCAPLUS

CN Zirconium, dichlorobis[(1,2,3,4,5-η)-1-(trimethylsilyl)-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



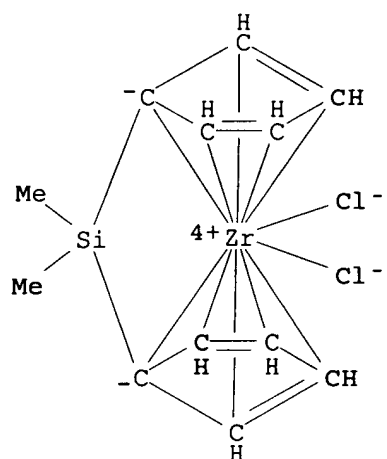
RN 60938-62-7 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5-η)-1,3-bis(trimethylsilyl)-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)

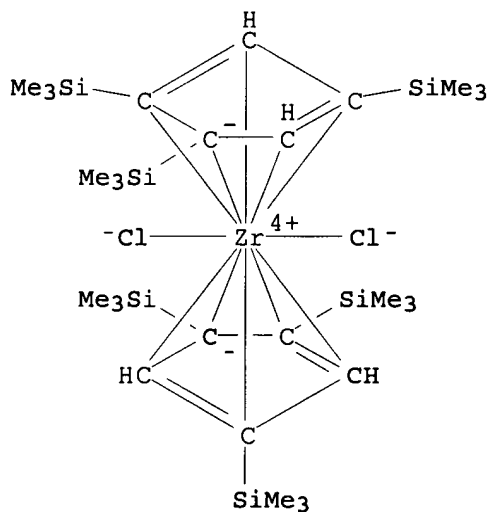


RN 86050-32-0 HCAPLUS

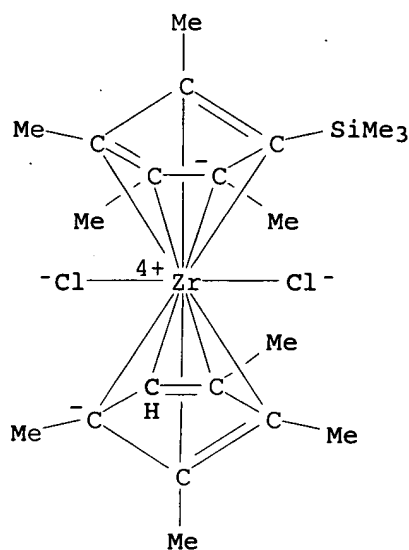
CN Zirconium, dichloro[(dimethylsilylene)bis(η⁵-2,4-cyclopentadien-1-ylidene)]- (9CI) (CA INDEX NAME)



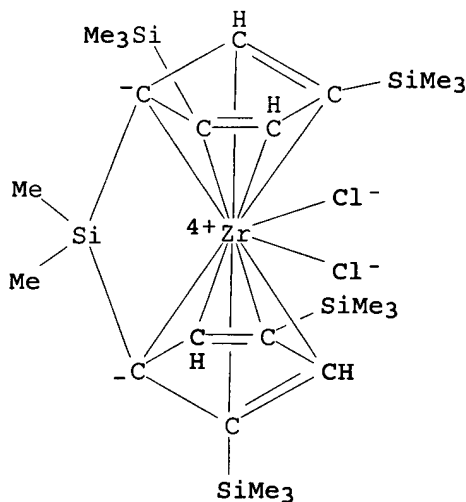
RN 133328-55-9 HCAPLUS
 CN Zirconium, dichlorobis[(1,2,3,4,5-η)-1,2,4-tris(trimethylsilyl)-2,4-cyclopentadien-1-yl] - (9CI) (CA INDEX NAME)



RN 241811-99-4 HCAPLUS
 CN Zirconium, dichloro[(1,2,3,4,5-η)-1,2,3,4-tetramethyl-2,4-cyclopentadien-1-yl][(1,2,3,4,5-η)-1,2,3,4-tetramethyl-5-(trimethylsilyl)-2,4-cyclopentadien-1-yl] - (9CI) (CA INDEX NAME)



RN 241812-00-0 HCAPLUS
 CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,4,5-η)-2,4-bis(trimethylsilyl)-2,4-cyclopentadien-1-ylidene]]- (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)
 IT 1291-32-3D, Zirconocene dichloride, methyl- and trimethylsilyl-substituted 12109-71-6 54039-38-2 119445-90-8 119445-92-0 119445-93-1
 (cyclic voltammetry of methyl- and trimethylsilyl-substituted zirconocenes dichlorides)
 IT 60938-59-2 60938-62-7 86050-32-0 133328-55-9 241811-99-4 241812-00-0
 (cyclic voltammetry of methyl- and trimethylsilyl-substituted zirconocene dichlorides on mercury electrode in THF)
 REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE

IN THE RE FORMAT

L43 ANSWER 37 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:405947 HCAPLUS

DOCUMENT NUMBER: 131:170424

TITLE: Substituent effects in cyclic voltammetry of titanocene dichlorides

AUTHOR(S): Langmaier, Jan; Samec, Zdenek; Varga, Vojtech; Horacek, Michal; Mach, Karel

CORPORATE SOURCE: J. Heyrovsky Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Prague, 18 223, Czech Rep.

SOURCE: Journal of Organometallic Chemistry (1999), 579(1-2), 348-355

CODEN: JORCAI; ISSN: 0022-328X

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

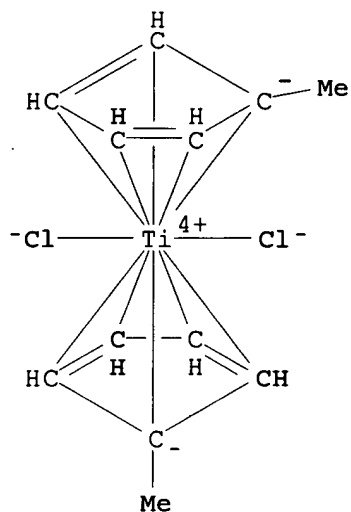
LANGUAGE: English

AB Methyl-substituted titanocene dichlorides (C₅H₅-nMen)₂TiCl₂ (n=0-5), [C₅Me₄(SiMe₃)]₂TiCl₂, (C₅Me₄Ph)₂TiCl₂ (Ph=phenyl), [C₅Me₄(FPh)]₂TiCl₂ (FPh=para-fluorophenyl), [C₅Me₄(CH₂Ph)]₂TiCl₂ and ansa-compds. Me₂Si(C₅H₄)₂TiCl₂ and Me₂Si(C₅Me₄)₂TiCl₂ were investigated by means of cyclic voltammetry at a mercury electrode in THF. The standard potential (E°₁) of the first electron uptake shifts to more neg. values proportionally to the number of Me groups in the (C₅H₅-nMen)₂TiCl₂ (n=0-3) compds., with an increment of 0.093 V per one Me group. A decline from this linear dependence is observed for (C₅HMe₄)₂TiCl₂ and a pos. shift for (C₅Me₅)₂TiCl₂. The [C₅Me₄(R)]₂TiCl₂ (R=SiMe₃, Ph, FPh and CH₂Ph) compds. show even larger pos. shifts of E°₁. These pos. shifts can be brought about by a steric strain between the cyclopentadienyl ligands which lowers the dihedral angle between cyclopentadienyl ring planes (φ) and thus decreases energies of bent titanocene 1a₁ and b₂ LUMO orbitals. This opinion is corroborated by the voltammetry of ansa-compds. Me₂Si(C₅H₄)₂TiCl₂ and Me₂Si(C₅Me₄)₂TiCl₂, having a large and fixed angle φ. Their E°₁ values are close to those of (C₅H₅)₂TiCl₂ and (C₅HMe₄)₂TiCl₂, resp.

IT 1282-40-2, Titanium, dichloro bismethylcyclopentadienyl
11136-36-0, Titanium, dichlorobis[(1,2,3,4,5-η)-
1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]- 51869-68-2
64444-45-7, Titanium, dichlorobis[(1,2,3,4,5-η)-
1,2,3,4-tetramethyl-5-phenyl-2,4-cyclopentadien-1-yl]-
73364-21-3 100516-63-0 115857-31-3
115959-99-4, Titanium, dichlorobis[(1,2,3,4,5-η)-1,2,3-
trimethyl-2,4-cyclopentadien-1-yl]- 185154-26-1
(cyclic voltammetry on mercury electrode in THF)

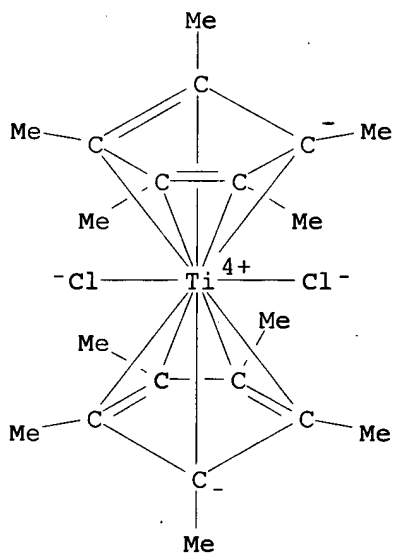
RN 1282-40-2 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5-η)-1-methyl-2,4-
cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



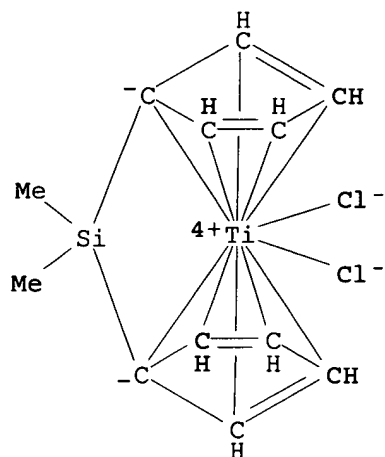
RN 11136-36-0 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



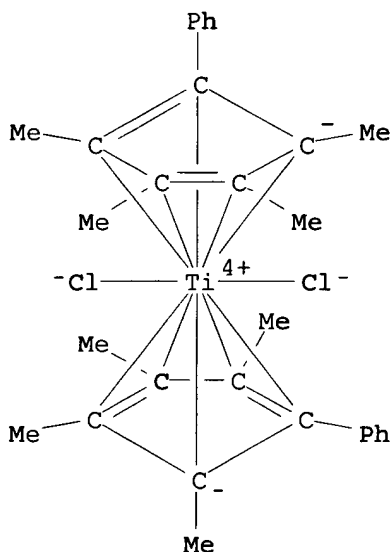
RN 51869-68-2 HCAPLUS

CN Titanium, dichloro[(dimethylsilylene)bis(η5-2,4-cyclopentadien-1-ylidene)]- (9CI) (CA INDEX NAME)



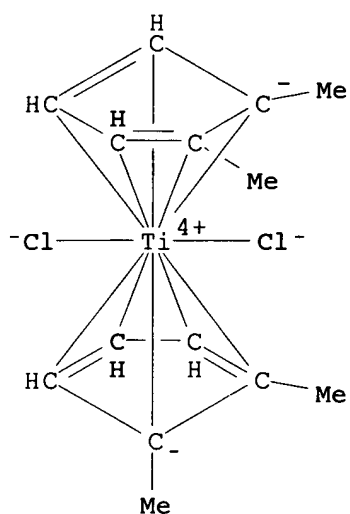
RN 64444-45-7 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5-η)-1,2,3,4-tetramethyl-5-phenyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



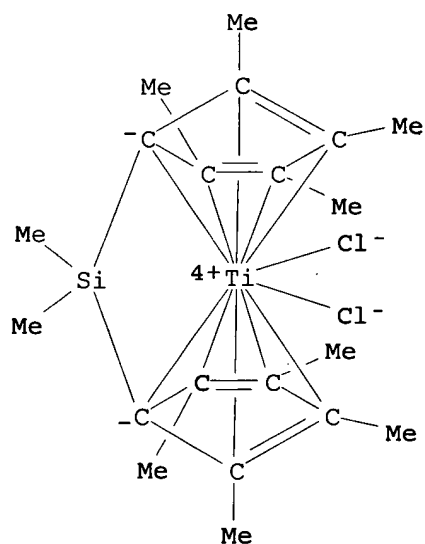
RN 73364-21-3 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5-η)-1,2-dimethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



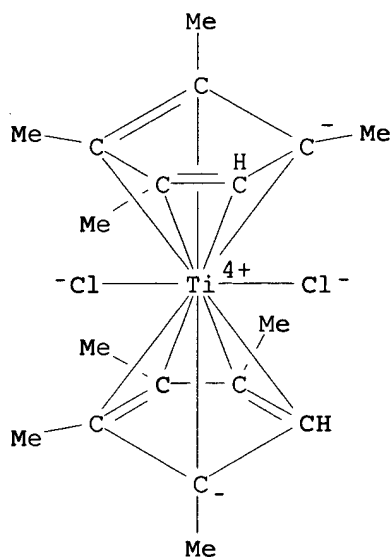
RN 100516-63-0 HCAPLUS

CN Titanium, dichloro[(dimethylsilylene)bis[(1,2,3,4,5- η)-2,3,4,5-tetramethyl-2,4-cyclopentadien-1-ylidene]]- (9CI) (CA INDEX NAME)

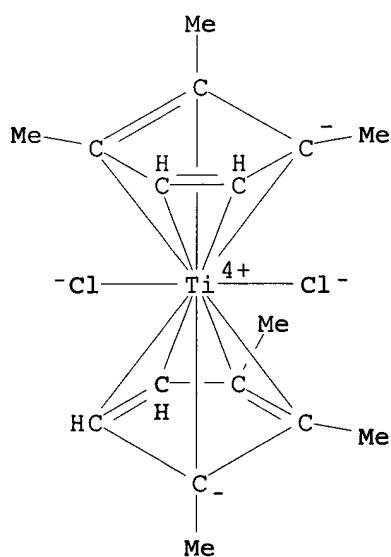


RN 115857-31-3 HCAPLUS

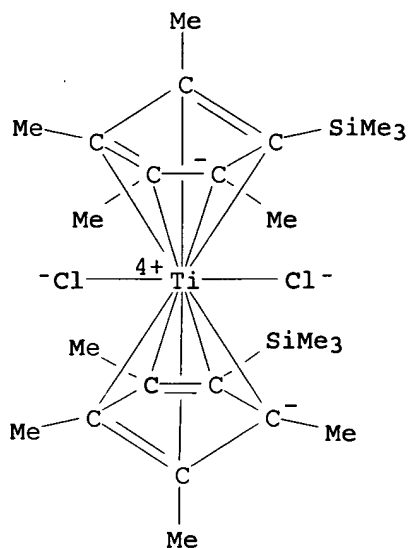
CN Titanium, dichlorobis[(1,2,3,4,5- η)-1,2,3,4-tetramethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



RN 115959-99-4 HCAPLUS
 CN Titanium, dichlorobis[(1,2,3,4,5-η)-1,2,3-trimethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



RN 185154-26-1 HCAPLUS
 CN Titanium, dichlorobis[(1,2,3,4,5-η)-1,2,3,4-tetramethyl-5-(trimethylsilyl)-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)

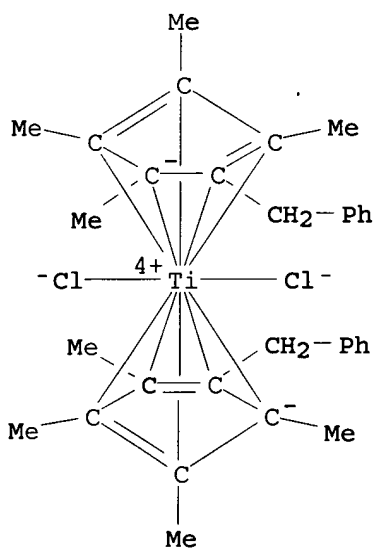


IT 238421-84-6P 238421-85-7P

(cyclic voltammetry on mercury electrode in THF)

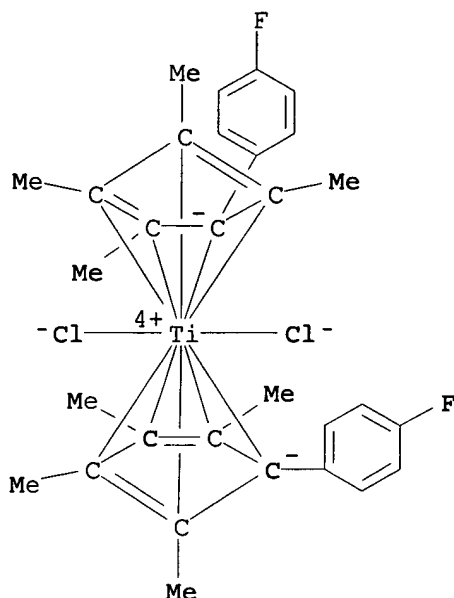
RN 238421-84-6 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5-η)-1,2,3,4-tetramethyl-5-(phenylmethyl)-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)

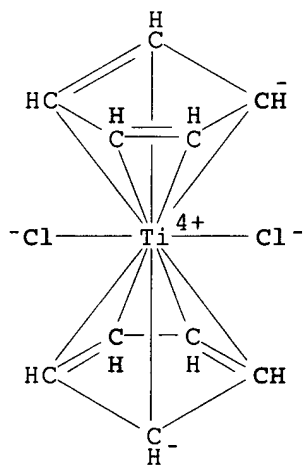


RN 238421-85-7 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5-η)-1-(4-fluorophenyl)-2,3,4,5-tetramethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



IT 1271-19-8, Titanocene dichloride
 (substituent effects in cyclic voltammetry of titanocene
 dichlorides)
 RN 1271-19-8 HCAPLUS
 CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl) - (9CI) (CA
 INDEX NAME)



CC 29-10 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 72
 IT 1282-40-2, Titanium, dichloro bismethylcyclopentadienyl
 11136-36-0, Titanium, dichlorobis[(1,2,3,4,5- η)-
 1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl] - 51869-68-2
 64444-45-7, Titanium, dichlorobis[(1,2,3,4,5- η)-
 1,2,3,4-tetramethyl-5-phenyl-2,4-cyclopentadien-1-yl] -
 73364-21-3 100516-63-0 115857-31-3
 115959-99-4, Titanium, dichlorobis[(1,2,3,4,5- η)-1,2,3-

trimethyl-2,4-cyclopentadien-1-yl]- 185154-26-1
(cyclic voltammetry on mercury electrode in THF)

IT 238421-84-6P 238421-85-7P

(cyclic voltammetry on mercury electrode in THF)

IT 1271-19-8, Titanocene dichloride

(substituent effects in cyclic voltammetry of titanocene dichlorides)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L43 ANSWER 38 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:721564 HCAPLUS

DOCUMENT NUMBER: 129:344435

TITLE: Ethylene-propylene fibers and fibrous moldings
using the same

INVENTOR(S): Nakajima, Yuji

PATENT ASSIGNEE(S): Chisso Corporation, Japan

SOURCE: Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 875609	A2	19981104	EP 1998-107209	1998 0421
EP 875609	A3	19990331		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 10298824	A2	19981110	JP 1997-118895	1997 0422
CN 1198485	A	19981111	CN 1998-109469	1998 0422
CN 1090250	B	20020904		
US 5993964	A	19991130	US 1998-64191	1998 0422
PRIORITY APPLN. INFO.:			JP 1997-118895	A 1997 0422

AB The present invention relates to fibers comprising propylene-ethylene copolymer (I) consisting of 0.01 to 15 mol% of ethylene units and 99.99 to 85 mol% of propylene units as at least one component, wherein a) a chain constitution of the copolymer found by means of NMR spectrum has the following relationships: a-1) in three monomers chain units (triad) in main chains of the copolymer, there is a relationship of formula (I): $0.0070 + C2 - 0.0020 \leq PEP \leq 0.0070 + C2 + 0.0130$ between a fraction of propylene unit - ethylene unit - propylene unit chain (PEP) and a total content of ethylene unit (C2), when PEP being pos., and a-2) in three monomer chain units (triad) in main chains of the copolymer, there is a relationship of formula

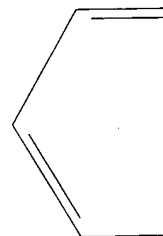
(II): $0 \leq \text{EEE} \leq 0.00033 + \text{C2} + 0.0010$ between a fraction of three continuous ethylene units chain (EEE) and a total content of ethylene unit (C2), as well as a-3) a ratio of total α, β -methylene carbon atoms ($N_{\alpha\beta}$) to total propylene units is within a range of 0 to 1.2 mol%, b) a weight average mol. weight (M_w) is 50,000 to 1,500,000, as well as c) a ratio (M_w/M_n) of a weight average mol. weight (M_w) to a number average mol. weight (M_n) is 1.2 to 3.8; and the use of said fibers in a nonwoven fabric, a knitted textile, a filter, and an absorbent article. I is preferably the metallocene catalyst-type, and the fibers exhibit good softness and strength and improved heat resistance.

IT 110528-81-9 125840-80-4 125950-11-0
 134876-98-5 136019-48-2 182744-64-5
 (soft ethylene-propylene fibers with good strength and improved heat resistance from metallocene catalyst polymers)

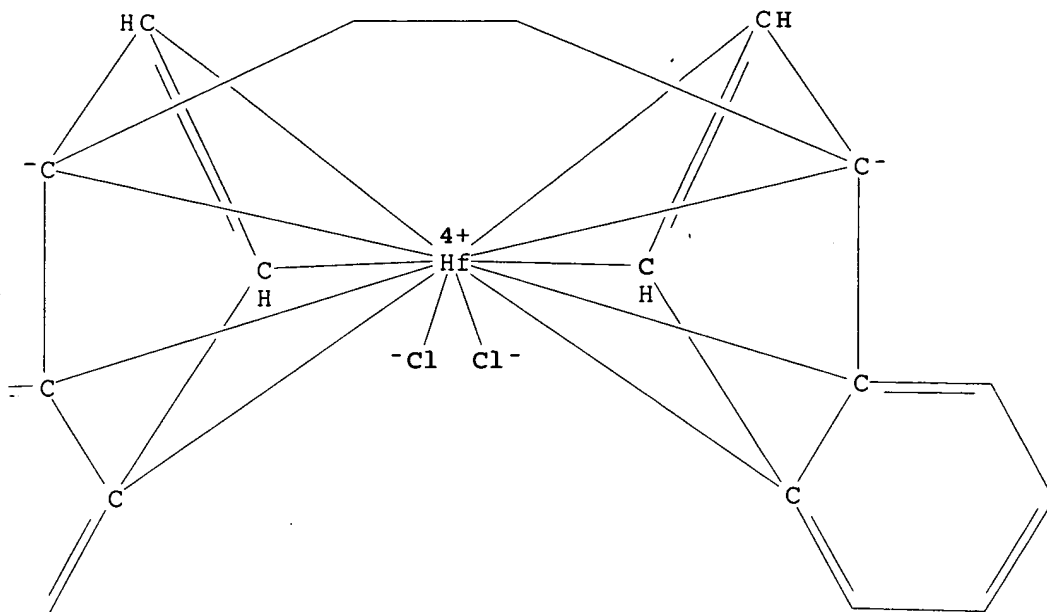
RN 110528-81-9 HCAPLUS

CN Hafnium, dichloro[rel-(7aR,7'aR)-1,2-ethanediylbis[(1,2,3,3a,7a- η)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

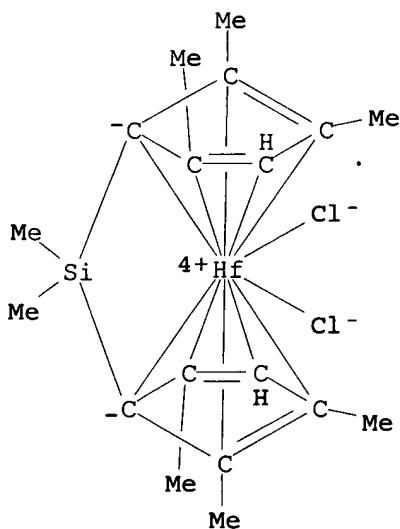
PAGE 1-A



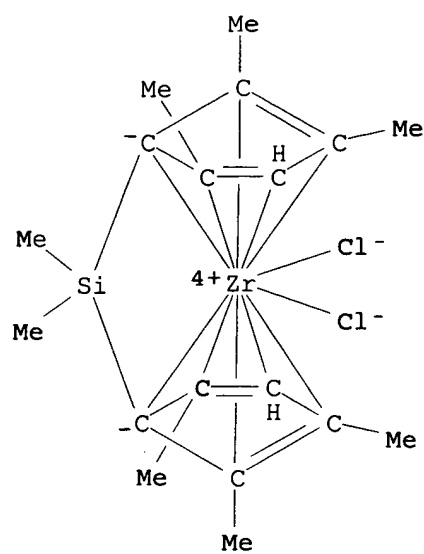
PAGE 1-B



RN 125840-80-4 HCAPLUS
 CN Hafnium, dichloro[(dimethylsilylene)bis[(1,2,3,4,5-η)-2,3,5-trimethyl-2,4-cyclopentadien-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

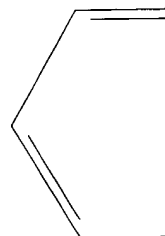


RN 125950-11-0 HCAPLUS
 CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,4,5-η)-2,3,5-trimethyl-2,4-cyclopentadien-1-ylidene]]-, stereoisomer (9CI) (CA INDEX NAME)

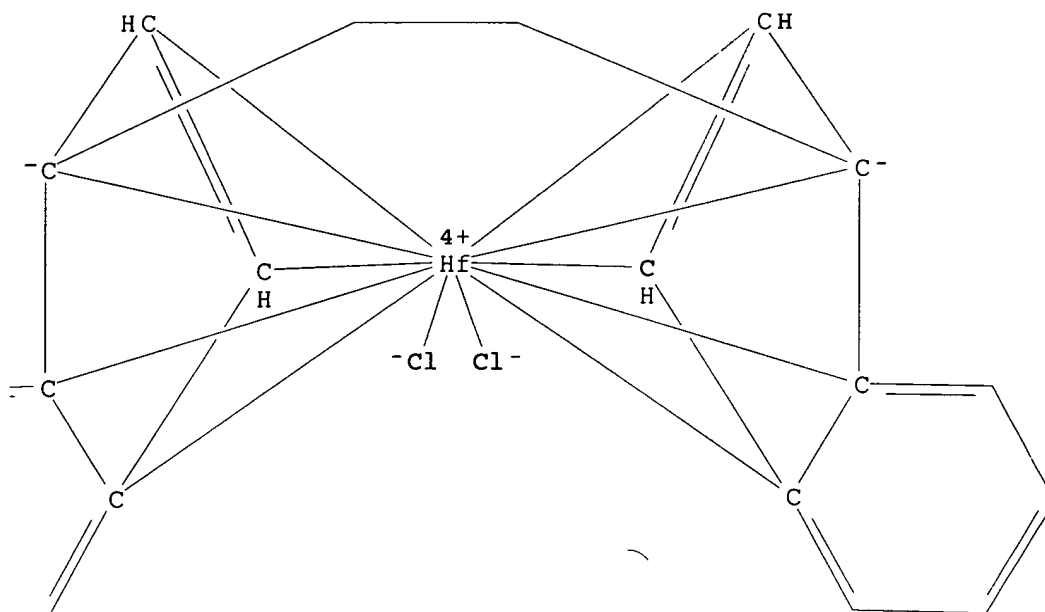


RN 134876-98-5 HCAPLUS
 CN Hafnium, dichloro[rel-(7aR,7'aS)-1,2-ethanediylbis[(1,2,3,3a,7a- η)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

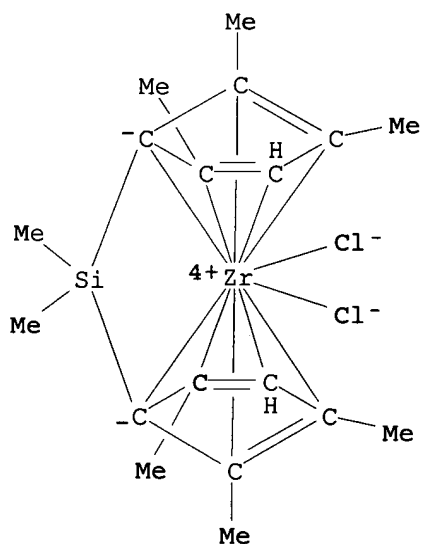
PAGE 1-A



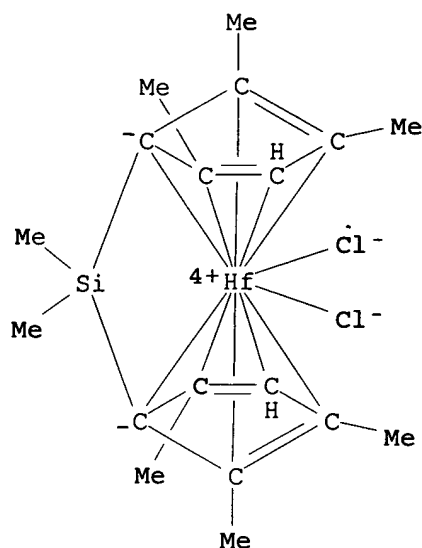
PAGE 1-B



RN 136019-48-2 HCAPLUS
 CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,4,5-η)-2,3,5-trimethyl-2,4-cyclopentadien-1-ylidene]]- (9CI) (CA INDEX NAME)



RN 182744-64-5 HCAPLUS
 CN Hafnium, dichloro[(dimethylsilylene)bis[(1,2,3,4,5-η)-2,3,5-trimethyl-2,4-cyclopentadien-1-ylidene]]- (9CI) (CA INDEX NAME)



IC ICM D01F008-06
 ICS D04H001-52; D04H001-56
 CC 40-2 (Textiles and Fibers)
 IT 110528-81-9 125840-80-4 125950-11-0
 134876-98-5 136019-48-2 182744-64-5
 (soft ethylene-propylene fibers with good strength and improved
 heat resistance from metallocene catalyst polymers)

L43 ANSWER 39 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1998:665885 HCAPLUS
 DOCUMENT NUMBER: 129:331987
 TITLE: Vulcanizable unsaturated olefin rubber
 compositions with good resistance to heat and
 weather
 INVENTOR(S): Okada, Keiji; Morizono, Kenichi; Kawasaki,
 Masaaki; Tojo, Tetsuo
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10273567	A2	19981013	JP 1997-356252	1997 1208

PRIORITY APPLN. INFO.: JP 1997-17109 A
 1997
 0130

AB The compns. useful for vibration dampers, comprise (A) 1-99 parts
 rubbers derived from ethylene, CH₂:CH(CR₁R₂)nC₆H₄R₃ (R₁-3 = H,
 C₁-8 alkyl group; n = 0-5), non-conjugated trienes or tetraenes
 and optionally C₃-20 α-olefins, and (B) ethylene-α-

olefin copolymer rubbers where the A rubbers can be prepared by using metallocene catalysts. Thus, an ethylene-4-ethylidene-8-methyl-1,7-nonadiene-propylene-styrene copolymer rubber was prepared in this manner, blended (from 40 parts) with 60 parts an ethylene-5-ethylidene-2-norbornene-propylene copolymer rubber, FEF Carbon black, naphthenic oil, zinc white, stearic acid, S and tetramethylthiuram disulfide and processed to give a sheet with tensile strength 16 MPa, elongation 430%, hardness 67, tand δ 0.13 and good folding endurance.

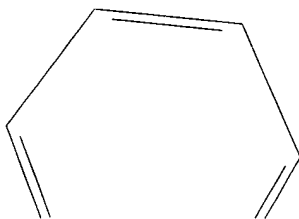
IT 133518-40-8, Isopropylidenebis(1-indenyl)zirconium dichloride

(unsatd. olefin rubber compns. with good resistance to heat and weather and vibration dampers made from them)

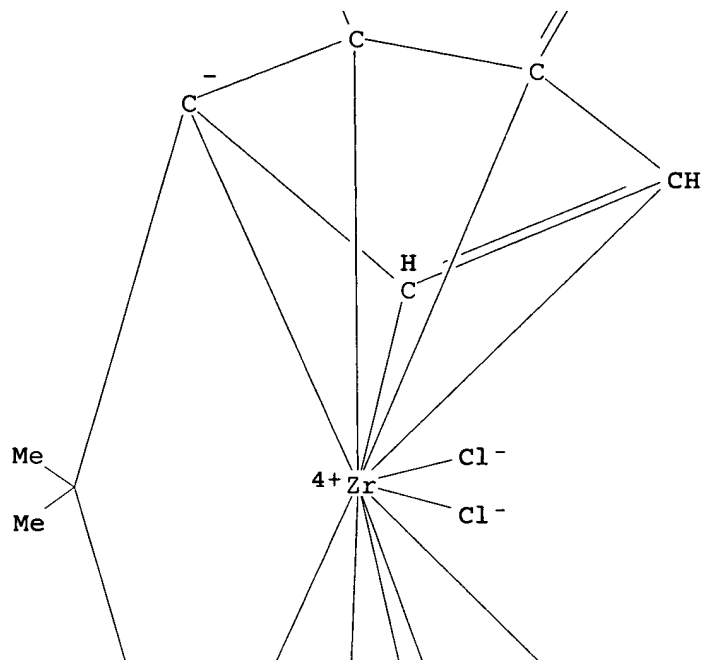
RN 133518-40-8 HCAPLUS

CN Zirconium, dichloro[(1-methylethylidene)bis[(1,2,3,3a,7a- η)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

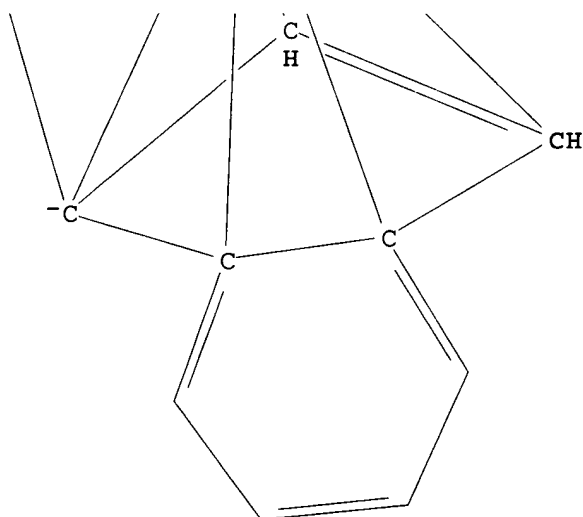
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IC ICM C08L023-08
 ICS C08L023-16; C08L025-02; C08L047-00
 CC 39-15 (Synthetic Elastomers and Natural Rubber)
 IT 133518-40-8, Isopropylidenebis(1-indenyl)zirconium
 dichloride 135072-61-6, (tert-Butylamido)dimethyl(tetramethyl-
 η^5 -cyclopentadienyl)silane titanium dichloride
 (unsatd. olefin rubber compns. with good resistance to heat and
 weather and vibration dampers made from them)

L43 ANSWER 40 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1998:665883 HCAPLUS
 DOCUMENT NUMBER: 129:331986
 TITLE: Unsaturated olefin rubber compositions with
 good resistance to heat and weather and
 vibration dampers made from them
 INVENTOR(S): Okada, Keiji; Morizono, Kenichi; Kawasaki,
 Masaaki; Tojo, Tetsuo
 PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10273565	A2	19981013	JP 1997-338343	1997 1209
PRIORITY APPLN. INFO.:			JP 1997-19095	A 1997 0131

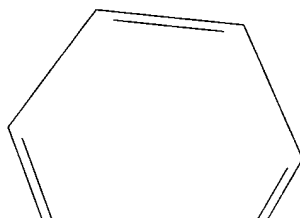
AB The comps. comprise rubbers, softeners, fillers or/and
 vulcanizers where the rubbers are derived from ethylene (a),
 $\text{CH}_2:\text{CH}(\text{CR}_1\text{R}_2)_n\text{C}_6\text{H}_4\text{R}_3$ ($\text{R}_1\text{-3} = \text{H}$, $\text{C}_1\text{-8}$ alkyl group; $n = 0\text{-}5$) (b),
 non-conjugated polyenes (c) and optionally $\text{C}_3\text{-}20$ α -olefins
 (d) at the a/d molar ratio of 100-60:0-40, and (a + d)/b molar
 ratio of 90-50:10-50 where the rubbers have an I number of 0.5-50 and
 can be prepared by using metallocene catalysts. Thus, an
 ethylene-4-ethylidene-8-methyl-1,7-nonadiene-styrene copolymer was
 prepared in this manner, blended (from 100 parts) with FEF Carbon
 black 40, naphthenic oil 50, zinc white 5 and stearic acid 1, then
 roll kneaded with S 2.5 and N-cyclohexyl-2-
 benzothiazolesulfenamide 1.5 parts to give a sheet with tensile
 strength 16 MPa, elongation 430%, hardness 63, $\tan\delta$ 0.56
 and good ozone resistance rating.

IT 133518-40-8, Isopropylidenebis(1-indenyl)zirconium
 dichloride
 (unsatd. olefin rubber comps. with good resistance to heat and
 weather and vibration dampers made from them)

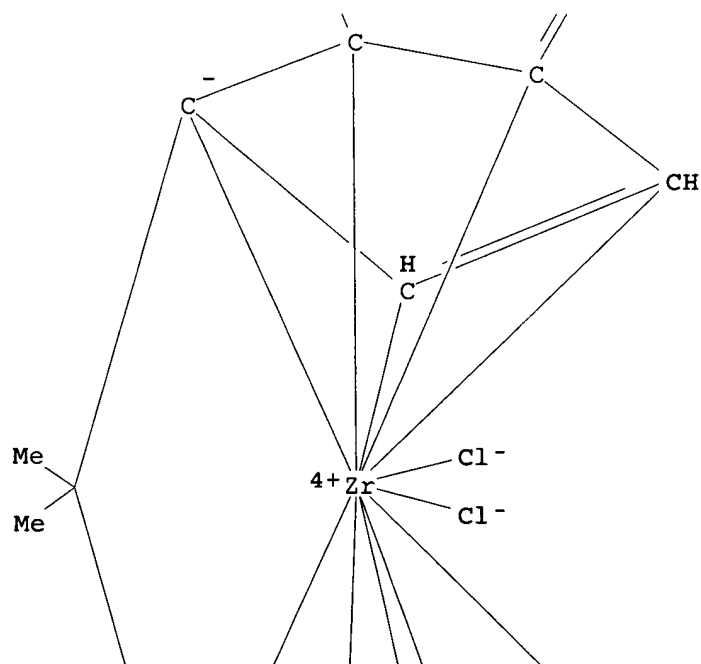
RN 133518-40-8 HCAPLUS

CN Zirconium, dichloro[(1-methylethylidene)bis[(1,2,3,3a,7a- η)-1H-
 inden-1-ylidene]]- (9CI) (CA INDEX NAME)

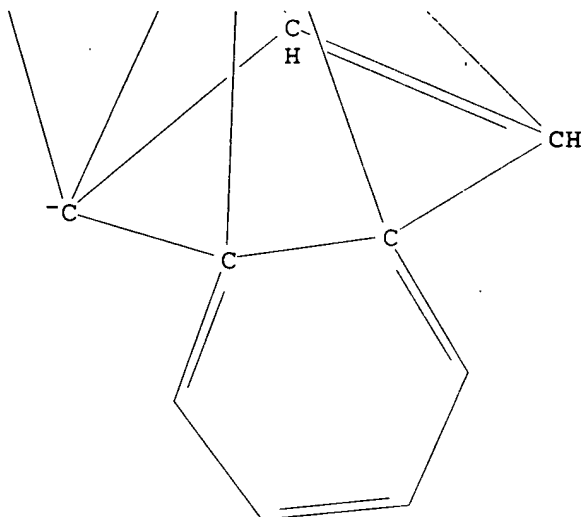
PAGE 1-A



PAGE 2-A



PAGE 3-A



IC ICM C08L023-08
 ICS C08F210-02; C08F210-18; C08K003-04; C08K003-06; C08K003-30;
 C08K005-01; C08K005-098; C08L023-16; F16F015-08; C08F212-04;
 C08F236-20
 CC 39-15 (Synthetic Elastomers and Natural Rubber)
 IT 133518-40-8, Isopropylidenebis(1-indenyl)zirconium
 dichloride 135072-61-6, Dimethyl(tert-butylamido)(tetramethyl-
 η 5-cyclopentadienyl)silane titanium dichloride
 (unsatd. olefin rubber compns. with good resistance to heat and
 weather and vibration dampers made from them)

L43 ANSWER 41 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:631374 HCAPLUS

DOCUMENT NUMBER: 129:283376

TITLE: Injection-molded product for
photographic film patronne

INVENTOR(S): Akao, Mutsuo

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 10254094	A2	19980925	JP 1997-70843	1997 0307
US 6013723	A	20000111	US 1997-982516	1997 1202
PRIORITY APPLN. INFO.:			JP 1996-323149	A 1996 1203

JP 1997-52852

A

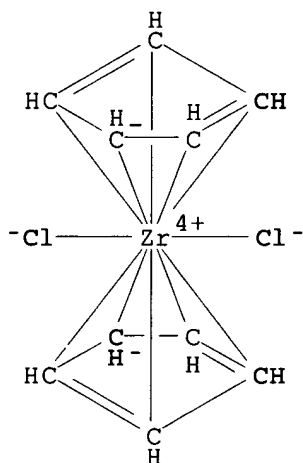
1997
0307

JP 1997-70843

A

1997
0307

- AB The injection-molded product comprises (1) a thermoplastic resin $\geq 30\%$ which is polymerized using a single site catalyst containing ≥ 1 of Zr, Ti, Hf, and/or Va metallocene complex and has the mol. weight distribution 1.1-1.5, (2) a lubricant and/or a hydrotalcite 0.01-10%, and (3) an antioxidant 0.001-1.0%. The patronne provided stable phys. properties and did not gave adverse effects on a **photog.** film.
- IT 1291-32-3, Bis(cyclopentadienyl)zirconium dichloride
(injection-molded product for **photog.** film patronne)
- RN 1291-32-3 HCAPLUS
- CN Zirconium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA INDEX NAME)



- IC ICM G03C003-00
ICS G03C003-00
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 67
- ST injection molded patronne thermoplastic resin; **photog** film patronne
- IT Crystal structure types
(hydrotalcite; injection-molded product for **photog.** film patronne)
- IT Antioxidants
Photographic films
Polymerization catalysts
(injection-molded product for **photog.** film patronne)
- IT 1291-32-3, Bis(cyclopentadienyl)zirconium dichloride
(injection-molded product for **photog.** film patronne)
- IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 25087-34-7, Butene-1-ethylene copolymer
(injection-molded product for **photog.** film patronne)

IT 301-02-0, Oleic acid amide 593-29-3, Potassium stearate
6683-19-8, Irganox 1010
(injection-molded product for photog. film patronne)

L43 ANSWER 42 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:589740 HCAPLUS

DOCUMENT NUMBER: 129:282539

TITLE: Indirect reduction of carbonyl and dinitro
derivatives by an electrogenerated
titanium(III) complex in non aqueous medium
AUTHOR(S): Martre, Anne Marie; Mousset, Guy; Danciu,
Virginia; Cosoveanu, Veronica

CORPORATE SOURCE: Electrosynthese Etude Systemes Interet
Biologique, UMR 6504, Synthese, Univ. Blaise
Pascal, Aubiere, 63177, Fr.

SOURCE: Electrochimica Acta (1998), 43(21-22),
3217-3225

CODEN: ELCAAV; ISSN: 0013-4686

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

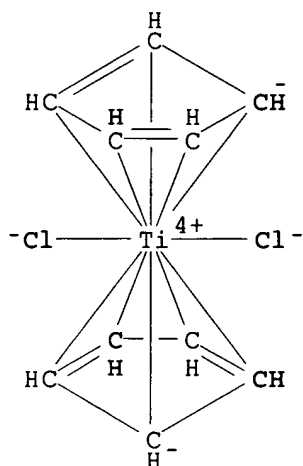
LANGUAGE: English

AB Aromatic nitro derivs. or ketones react with low valent titanium
reagents to give, resp., the amines or alcs. and coupling
products. The authors have studied, in a nonaq. medium (DMF), the
selectivity of a titanium(III) species electrochem. generated from
Cp₂TiCl₂ for the reduction of the 4,4'-dinitrodibenzyl and the
9-fluorenone. The cyclic voltammograms of Cp₂TiCl₂ were
registered in the presence of the dinitro derivative or of the ketone.
The ESR spectra of the Ti(III) species and of the anion-radicals
were monitored under in situ electrolyzes. For low values of the
ratio [Cp₂TiCl₂]/[substrate], the macroscale electrolyzes
performed at the potential of the 1st step of Cp₂TiCl₂ yielded
selectively the 4-amino-4'-nitrodibenzyl and the pinacol of the
fluorenone. For higher ratios or at a more neg. fixed potential,
the diamine and the fluorenone became the main reaction products.

IT 1271-19-8, Dichlorodicyclopentadienyltitanium
(selectivity of titanium(III) species electrochem. generated
from Cp₂TiCl₂ for reduction of dinitrodibenzyl and fluorenone)

RN 1271-19-8 HCAPLUS

CN Titanium, dichlorobis(η⁵-2,4-cyclopentadien-1-yl)- (9CI) (CA
INDEX NAME)



CC 72-2 (Electrochemistry)

Section cross-reference(s): 22, 25, 29

IT 1271-19-8, Dichlorodicyclopentadienyltitanium

(selectivity of titanium(III) species electrochem. generated from Cp₂TiCl₂ for reduction of dinitrodibenzyl and fluorenone)

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 43 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:377437 HCAPLUS

DOCUMENT NUMBER: 129:141825

TITLE: Selective reduction of polyfunctional molecules by an electrically generated titanium (III) complex in an aqueous and nonaqueous media.

AUTHOR(S): Martre, Anne-Marie; Lemanceau, Severine; Mousset, Guy; Cosoveanu, Veronica; Danciu, Virginia

CORPORATE SOURCE: Synthese, Electrosynthese et Etude de Systemes d'Interet Biologique Equipe d'Electrochimie Organique, Universite Blaise Pascal de Clermont-Ferrand Formation associee au CNRS, Aubiere, 63177, Fr.

SOURCE: Studia Universitatis Babes-Bolyai, Chemia (1996), 41(2), 106-121

CODEN: SUBCAB; ISSN: 1224-7154

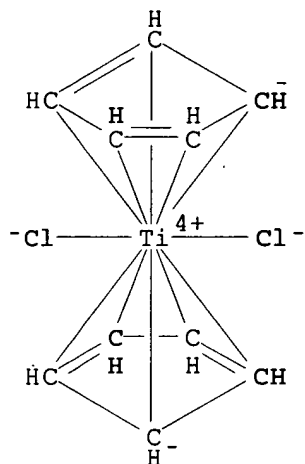
PUBLISHER: Studia Universitatis Babes-Bolyai

DOCUMENT TYPE: Journal

LANGUAGE: French

AB The selective reduction of 4,4'-dinitrodibenzyl and 4,4'-dinitrostilbene 2,2'-disulfonic acid by elec. generated titanium (III) complex in aqueous and nonaq. media has been studied. In acidic aqua media the electrochem. reduction takes place on different metal electrodes. The role of redox system Ti³⁺/Ti⁴⁺ in products formation is shown in each case. The study was developed also in aprotic media of DMF. Results of cyclic voltammetry and ESR indicate that dinitroderivatives and fluorenone can be electrochem. reduced by dichloro-titanocene. The preliminary results of electrosynthesis are presented.

IT 1271-19-8, Dichlorotitanocene
 (selective reduction of polyfunctional mols. in an aqueous and nonaq.
 media by)
 RN 1271-19-8 HCAPLUS
 CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA
 INDEX NAME)



CC 72-2 (Electrochemistry)
 Section cross-reference(s): 22, 56
 IT 1271-19-8, Dichlorotitanocene
 (selective reduction of polyfunctional mols. in an aqueous and nonaq.
 media by)
 REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 44 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:553200 HCAPLUS
 DOCUMENT NUMBER: 127:191673
 TITLE: An in-mold label, a container decorated
 therewith, and molding of a container
 decorated therewith
 INVENTOR(S): Ohno, Akihiko Oji; Nishizawa, Takatoshi;
 Shiina, Masaki; Yasuda, Junichi Oji; Ikeno,
 Hajime; Shichijo, Keiko
 PATENT ASSIGNEE(S): Oji-Yuka Synthetic Paper Co., Ltd., Japan;
 Yupo Corp.
 SOURCE: Eur. Pat. Appl., 26 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 787581	A1	19970806	EP 1996-113070	1996 0814

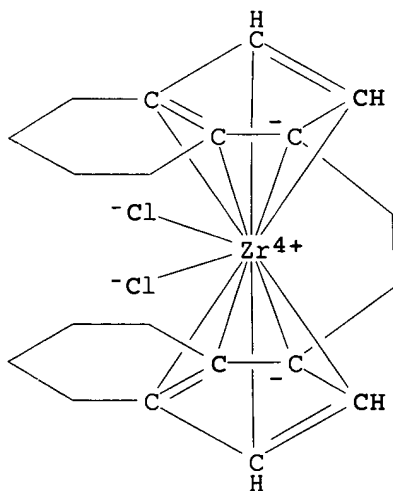
EP 787581	B1	20031112		
R: AT, BE, DE, ES, FR, GB, IT, NL, SE				
JP 09207166	A2	19970812	JP 1996-39128	1996 0202
US 5811163	A	19980922	US 1996-698053	1996 0813
AT 254033	E	20031115	AT 1996-113070	1996 0814
AU 9664429	A1	19970807	AU 1996-64429	1996 0903
AU 717211	B2	20000323		
PRIORITY APPLN. INFO.:			JP 1996-39128	A 1996 0202

AB An in-mold label has a thermoplastic resin film base layer (I) having printed matter on its front side and, formed on the back side of the thermoplastic resin base layer (I), a heat sealable resin layer (II) having a lower m.p. than the constituent resin of the thermoplastic resin film base layer (I), the constituent resin of the heat sealable resin layer (II) having as its main component an ethylene/ α -olefin copolymer obtained by copolymerizing from 40 to 98 wt% ethylene and from 2 to 40 wt% of an α -olefin having from 3 to 30 carbon atoms using a metallocene catalyst. These labels are punched out of sheets containing several labels without forming burrs and are useful in the molding of high-density polyethylene or propylene containers.

IT 112243-79-5
(in-mold labels having a thermoplastic backing and a heat-sealable, metallocene-catalyst-prepared ethylene copolymer layer for molding polyolefin containers)

RN 112243-79-5 HCAPLUS

CN Zirconium, dichloro[1,2-ethanediylbis[(1,2,3,3a,7a- η)-4,5,6,7-tetrahydro-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)



IC ICM B32B027-32
 ICS B32B027-20; B31D001-02
 CC 38-3 (Plastics Fabrication and Uses)
 IT 112243-79-5
 (in-mold labels having a thermoplastic backing and a
 heat-sealable, metallocene-catalyst-prepared ethylene copolymer
 layer for molding polyolefin containers)

L43 ANSWER 45 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:449073 HCAPLUS

DOCUMENT NUMBER: 127:154617

TITLE: Electrostatographic developer toner and image
 formation method

INVENTOR(S): Eguchi, Atsuhiko; Suzuki, Chiaki; Aoki,
 Takayoshi

PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

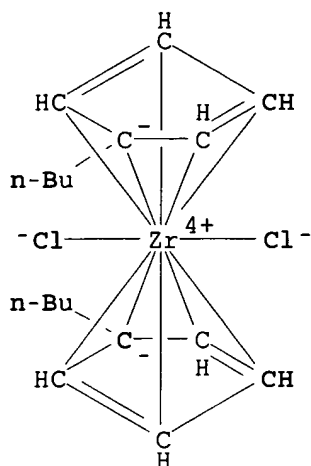
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09166883	A2	19970624	JP 1995-328650	1995 1218
JP 3463440	B2	20031105	JP 1995-328650	1995 1218
PRIORITY APPLN. INFO.:				

AB The toner with average particle size 4-9 μm has (A) a binder resin,
 (B) a coloring agent, (C) a lubricant containing a modified
 polyethylene-based wax manufactured by graft-polymerizing an ethylenic
 copolymer containing an ethylene homopolymer or an ethylene-C3-10
 α -olefin copolymer with a styrene-based monomer and/or an
 unsatd. carboxylic acid monomer in the presence of a metallocene
 catalyst, (D) and an additive containing an inorg. oxide fine
 particles with average particle size 30-150 nm. The method using a
 developer containing the toner is also claimed. The toner shows
 antioffset property. The toner gives good images with
 releasability at low temperature and blocking and friction resistance.

IT 73364-10-0, Bis(butylcyclopentadienyl)zirconium dichloride
 (metallocene catalyst preparation for manufacture of electrophotog. toner
 lubricant)

RN 73364-10-0 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-
 yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM G03G009-08
ICS G03G009-087; G03G015-08
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35
IT 75-24-1, Trimethylaluminum 73364-10-0,
Bis(butylcyclopentadienyl)zirconium dichloride
(metallocene catalyst preparation for manufacture of electrophotog. toner lubricant)

L43 ANSWER 46 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:449043 HCAPLUS
DOCUMENT NUMBER: 127:73010
TITLE: Electrostatographic image formation using
developing apparatus without toner-mixing
means
INVENTOR(S): Eguchi, Atsujiko; Suzuki, Chiaki; Aoki,
Takayoshi; Torigoe, Toru
PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09160386	A2	19970620	JP 1995-325366	1995 1214

PRIORITY APPLN. INFO.: JP 1995-325366

1995
1214

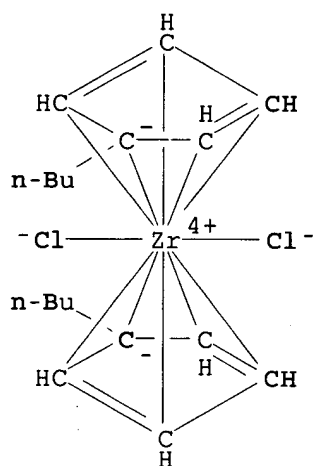
AB The method uses a developing agent containing a magnetic carrier, and a magnetic toner grain containing a magnetic microparticle, a binder resin, and a lubricant which is a modified polyethylene-base wax prepared by graft polymerization of polyethylene or ethylene-C3-10

α -olefin copolymer (prepared in the presence of a metallocene catalyst) with a styrene-base monomer and/or an unsatd. carboxylic acid monomer, wherein the magnetic carrier exist only on the developer carrier. Since the carrier exists only on a support, and the lubricant does not transfer to the carrier surface; the developer has long life and the development gives stable images with homogeneous d. without blocking property and ghost images.

IT 73364-10-0, Bis(n-butylcyclopentadienyl)zirconium dichloride
(polymerization catalyst; in preparation of modified polyethylene-base wax lubricant for electrostatog. developer)

RN 73364-10-0 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM G03G015-08
ICS G03G015-08; G03G009-083; G03G009-08; G03G015-09

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37, 38

IT 73364-10-0, Bis(n-butylcyclopentadienyl)zirconium dichloride
(polymerization catalyst; in preparation of modified polyethylene-base wax lubricant for electrostatog. developer)

L43 ANSWER 47 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:424761 HCAPLUS

DOCUMENT NUMBER: 127:58022

TITLE: Image formation using toner containing modified polyethylene-type wax

INVENTOR(S): Eguchi, Atsuhiko; Suzuki, Chiaki; Aoki, Takayoshi

PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09146291	A2	19970606	JP 1995-302350	1995 1121

PRIORITY APPLN. INFO.:

JP 1995-302350

1995
1121

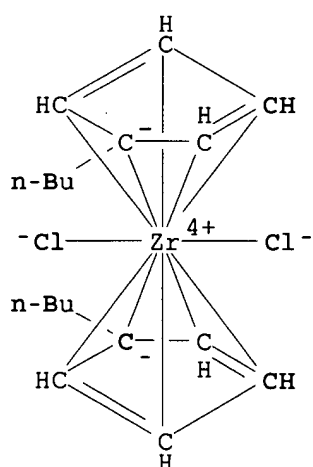
AB In the title method involving the steps of: forming electrostatic latent images on a latent image-holding substance; developing the latent images with a developer; transferring the toner images onto receptors; and removing the residual toner on the substance, the toner comprises a binder resin, a colorant, and a modified polyethylene-type wax prepared by graft polymerization of ethylene homopolymer obtained by polymerization in the presence of a metallocene catalyst or an ethylene copolymer of ethylene and C3-10 α -olefins with styrene-type and/or unsatd. carboxylic acid monomers and the recovered toner is reused. The toner shows good antioffset properties and antiblocking properties and provides high quality images with improved scratch resistance. Thus, polyethylene, polymerized in the presence of bis(n-butylcyclopentadienyl)zirconium dichloride, methylaluminoxane, and trimethylaluminum, was graft-polymerized with styrene to give a modified polyethylene wax. The wax, styrene-Bu methacrylate copolymer, carbon black, and a charge-controlling agent were kneaded and pulverized to give a toner, which was mixed with a ferrite carrier to give a developer.

IT 73364-10-0, Bis(n-butylcyclopentadienyl)zirconium dichloride

(polymerization catalyst; toner containing grafted polyethylene-type wax for recycling and high quality images)

RN 73364-10-0 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM G03G009-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 75-24-1, Trimethylaluminum 73364-10-0,
Bis(n-butylcyclopentadienyl)zirconium dichloride
(polymerization catalyst; toner containing grafted polyethylene-type wax
for recycling and high quality images)

L43 ANSWER 48 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:309919 HCAPLUS

DOCUMENT NUMBER: 127:11083

TITLE: Electrophotographic imaging method utilizing
bias roll

INVENTOR(S): Eguchi, Atsuhiko; Ishida, Haruhide; Iida,
Yoshifumi; Oishi, Kaori; Aoki, Takayoshi;
Yano, Toshiyuki

PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09073191	A2	19970318	JP 1996-165439	1996 0626
US 5650254	A	19970722	US 1996-667649	1996 0621

PRIORITY APPLN. INFO.: JP 1995-180589 A 1995
0626

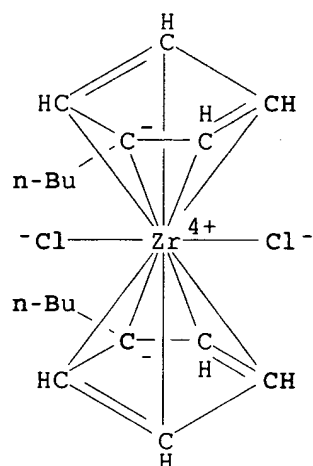
AB In the title method comprising an electrostatog. latent image
formation process, an electrophotog. development process, a toner
image transfer process and a heat-fixing process, the
electrophotog. toner contains specific modified polyethylene waxes
as lubricants and the toner image transfer process utilizes a bias
roller, wherein the waxes are prepared by grafting polyethylene
polymers (which are prepared in the presence of metallocene
catalysts) with styrenes or unsatd. carboxylates.

IT 73364-10-0, Bis(n-butylcyclopentadienyl)zirconiumdichlorid
e

(polyethylene polymer prepared in the presence of)

RN 73364-10-0 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-
yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM G03G009-087
 ICS G03G009-09; G03G009-08; G03G015-16
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38
 IT 75-24-1, Trimethylaluminum 73364-10-0,
 Bis(n-butylcyclopentadienyl)zirconiumdichloride
 (polyethylene polymer prepared in the presence of)

L43 ANSWER 49 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:197897 HCAPLUS
 DOCUMENT NUMBER: 126:192944
 TITLE: Electrostatographic developer toner and image
 formation
 INVENTOR(S): Eguchi, Atsuhiko; Ishida, Haruhide; Iida,
 Yoshifumi; Ooishi, Kaori; Aoki, Takayoshi;
 Yano, Toshuki
 PATENT ASSIGNEE(S): Fuji Xerox Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09015896	A2	19970117	JP 1995-180587	1995 0626

PRIORITY APPLN. INFO.: JP 1995-180587

1995
0626

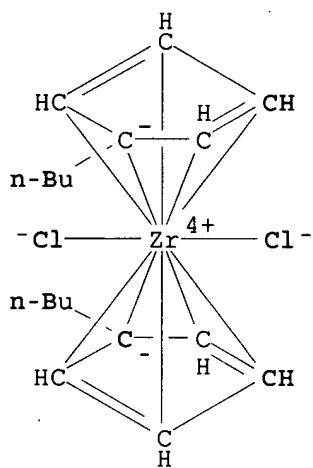
AB The toner has (A) a binder resin containing a styrene-acrylate copolymer with a 15-40% THF-insol. portion, (B) a coloring agent, and (C) a lubricant containing an ethylene-based wax prepared by grafting a polyethylene-based polymer, which is selected from a polyethylene and an ethylene-C3-10 α -olefin copolymer prepared

in the presence of a metallocene catalyst, with a styrene-based monomer and/or an unsatd. carboxylic monomer. In the image formation process, the claimed toner is used for a developer. The toner shows good off-set and blocking resistance.

IT 73364-10-0, Bis(butylcyclopentadienyl)zirconium dichloride (electrostatog. developer toner containing styrene-acrylate copolymer binder and polyethylene wax lubricant for image formation)

RN 73364-10-0 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM G03G009-08

ICS G03G009-087; G03G015-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 73364-10-0, Bis(butylcyclopentadienyl)zirconium dichloride (electrostatog. developer toner containing styrene-acrylate copolymer binder and polyethylene wax lubricant for image formation)

L43 ANSWER 50 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:189745 HCAPLUS

DOCUMENT NUMBER: 126:186863

TITLE: Ethylene-olefin copolymer compositions for horticultural water tubes

INVENTOR(S): Ooe, Tatsuya; Fujimura, Mitsuaki; Shinagawa, Yoshio

PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09009801

A2

19970114

JP 1995-169100

1995

0704

PRIORITY APPLN. INFO.:

JP 1995-169100

1995

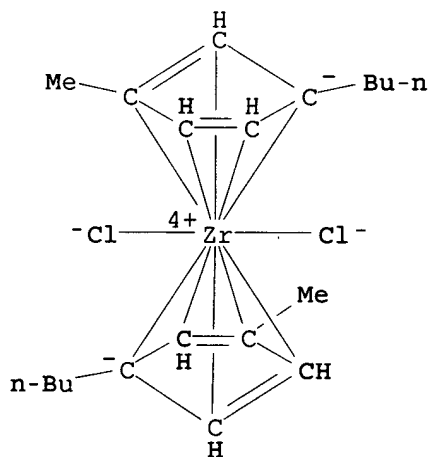
0704

AB The compns., for preparation of tubes having series of tiny holes around the longitudinal direction of the tube and having heat sealed sections, comprise mixts. of 20-100 parts copolymer of ethylene and C4-12 α -olefins and 0-80% HPPE, wherein the copolymers have melt flow rate (MFR) 0.01-10 g/10 min, d. 0.880-0.940, polydispersity 1.5-3.5, B1 (average number of divergences of high-mol. weight side) \geq B2 (average number of divergences of low-mol. weight side) and a satisfied relationship of solubility in n-decane and the d. of the copolymers. Thus, a tube was prepared from ethylene-1-hexene copolymer (d. 0.921, MFR 2.1 g/10 min, polydispersity 2.0; solubility in decane 0.22%) which was prepared by polymerizing of ethylene and 1-hexene in the presence of a catalyst of triisobutyl aluminum in hexane and a solid catalyst prepared by suspension reacting of Me aluminoxane in toluene and then reacting with bis(1-methyl-3-n-butylcyclopentadienyl)zirconium chloride in toluene.

IT 151840-68-5, Bis(1-methyl-3-n-butylcyclopentadienyl) zirconium dichloride
(ethylene-olefin copolymer compns. for horticultural water tubes)

RN 151840-68-5 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-3-methyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM A01G025-02

ICS C08L023-04; C08L023-08

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 19, 38

IT 100-99-2, Triisobutyl aluminum, uses 151840-68-5, Bis(1-methyl-3-n-butylcyclopentadienyl) zirconium dichloride (ethylene-olefin copolymer compns. for horticultural water tubes)

L43 ANSWER 51 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:165113 HCAPLUS
 DOCUMENT NUMBER: 126:158509
 TITLE: Sheet palettes with balanced stiffness and impact resistance at low temperature
 INVENTOR(S): Kabaya, Takeshi; Komori, Shigeki; Kanbe, Shigemitsu
 PATENT ASSIGNEE(S): Nippon Petrochemicals Co., Ltd., Japan; Japan Polyolefine Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08337246	A2	19961224	JP 1995-177867	1995 0612
JP 3493080	B2	20040203	JP 1995-177867	1995 0612

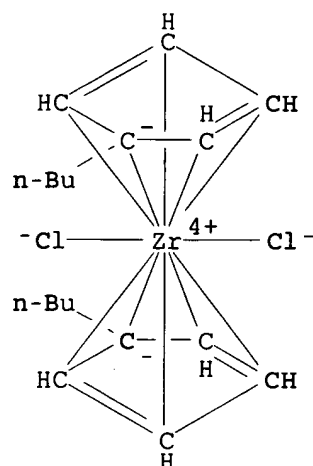
PRIORITY APPLN. INFO.:
 1995
 0612

AB A sheet palette with balanced stiffness and impact resistance at low temperature is made from a polymer composition comprising (1) 50-95 weight% of propylene polymers, (2) 5-50 weight% of polyethylene or ethylene copolymers with C3-20 α -olefins made by polymerization using catalysts containing IV group transition metal complexes having cyclopentadienyl-type ligands and having d. 0.86-0.97 g/cm³, melt flow rate 0.01-50 g/10 min, mol. weight distribution Mw/Mn 1.8-3.5, and composition parameter Cb \leq 1.2, (3) 0-45 weight% of ethylene polymers and has thickness 0.3-10 mm and friction coefficient of upper surface larger than that of the bottom surface. A palette made from a composition comprising 80 parts of ethylene-propylene block copolymer with ethylene content 11% and 20 parts of 1-butene-ethylene copolymer made by using bis(n-butylcyclopentadienyl)zirconium dichloride as catalyst and having melt flow rate 1.9 g/10 min, d, 0.9238 g/cm³, Mw/Mn 2.1, and Cb 1.03 had upper surface friction coefficient 0.51, bottom surface friction coefficient 0.18, thickness 110 μ m, bending stiffness (JIS K7106) 6800 kg/cm², and brittle temperature (JIS K6760) -70°.

IT 73364-10-0, Bis(n-butylcyclopentadienyl)zirconium dichloride
 (preparation of ethylene polymers for sheet palettes with balanced stiffness and impact resistance at low temperature)

RN 73364-10-0 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM B65D019-22
ICS C08L023-08; C08L023-10
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 35, 37
IT 73364-10-0, Bis(n-butylcyclopentadienyl)zirconium
dichloride 135539-49-0
(preparation of ethylene polymers for sheet palettes with balanced
stiffness and impact resistance at low temperature)

L43 ANSWER 52 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:14805 HCAPLUS
DOCUMENT NUMBER: 126:61201
TITLE: Antiblocking and low-temperature-sealable
laminates and their containers for food or
medical uses

INVENTOR(S): Hatsutori, Takaaki
PATENT ASSIGNEE(S): Nippon Petrochemicals Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08276552	A2	19961022	JP 1995-115343	1995 0405

PRIORITY APPLN. INFO.: JP 1995-115343

1995
0405

AB Title laminates comprise (a) heat-resistant exterior layers having a DST peak of $\geq 120^\circ$, (b) layers (e.g., the most interior layer) prepared from blends of 20-100% C₂H₄- α -C₃-20 olefin copolymers (A) having a d. of 0.900-0.940 g/cm³ and prepared in the presence of Group IV transition metal cyclopentadienyl derivs., and 0-80% other C₂H₄ polymers, and (c) soft/transparent

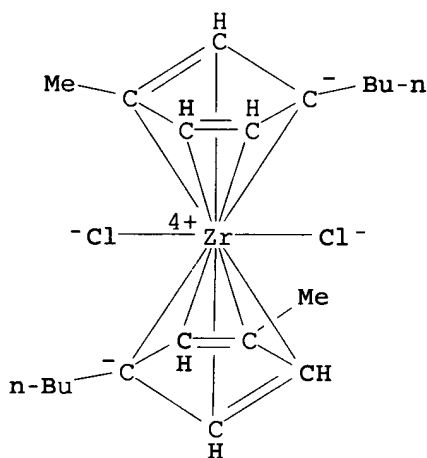
middle layers prepared from 20-100% the above A with a d. ≤ 0.920 g/cm³ and below that of A in (b) layers and 0-80% other C₂H₄ polymers. A laminate comprised 1-butene-ethylene copolymer (I) with d. 0.937 g/cm³ as exterior layer, another I with d. 0.900 g/cm³ as middle layer, and another I with d. 0.922 g/cm² interior layer and showed good sealability at 144° and block resistance.

IT 151840-68-5

(for olefin-ethylene resin preparation; antiblocking/low-temperature-sealable ethylene- α -olefin copolymer laminates for containers for food or medical uses)

RN 151840-68-5 HCAPLUS

CN Zirconium, bis[(1,2,3,4,5- η)-1-butyl-3-methyl-2,4-cyclopentadien-1-yl]dichloro- (9CI) (CA INDEX NAME)



IC ICM B32B027-32

ICS A61J001-10; B32B027-00; B32B027-08

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 17, 63, 67

IT 151840-68-5

(for olefin-ethylene resin preparation; antiblocking/low-temperature-sealable ethylene- α -olefin copolymer laminates for containers for food or medical uses)

L43 ANSWER 53 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:740319 HCAPLUS

DOCUMENT NUMBER: 126:32510

TITLE: Multilayer adhesive cover tape for embossed carrier tape for semiconductors

INVENTOR(S): Myamoto, Tomoharu

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08258888 A2 19961008 JP 1995-63644

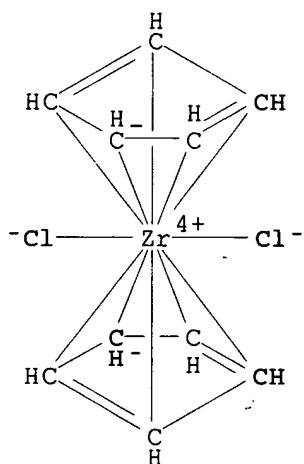
1995
0323

JP 3181188 B2 20010703

PRIORITY APPLN. INFO.: JP 1995-63644

1995
0323

- AB The title cover tape, with transparency >70% and tensile impact strength >400 kg-cm/cm², comprises (a) an outer layer of biaxially stretched polyesters or polypropylene, (b) a middle layer of LLDPE (e.g., prepared by using zirconocene dichloride and Me aluminoxane as catalysts) with tear strength >100 kg/cm, tensile impact strength >100 kg-cm/cm², and haze <15%, and (c) a heat-sealable adhesive layer of polyurethanes, acrylic polymers, vinyl chloride polymers, EVA, polyesters, butadiene polymers, and/or styrene polymers containing 10-1000 phr SnO₂ or ZnO₂ elec. **conductive** powder and having surface resistivity <10¹³ Ω/cm², providing adhesive strength between the middle layer and the adhesive layer (α) being 10-130 g/mm and that between the adhesive layer and the carrier tape being larger than α.
- IT 1291-32-3, Zirconocene dichloride
(for LLDPE preparation; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- RN 1291-32-3 HCAPLUS
- CN Zirconium, dichlorobis(η⁵-2,4-cyclopentadien-1-yl) - (9CI) (CA INDEX NAME)



- IC ICM B65D085-86
ICS B32B027-00; B32B027-28; H01L021-68
- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
- ST cover tape embossed **semiconductor** carrier tape;
polyester LLDPE adhesive cover tape; polypropylene LLDPE adhesive
cover tape; polyurethane adhesive multilayer cover tape; acrylic
adhesive multilayer cover tape; PVC adhesive multilayer cover
tape; EVA adhesive multilayer cover tape; butadiene polymer
adhesive multilayer cover tape; styrene polymer adhesive
multilayer cover tape; zirconocene elec **conductor**
adhesive cover tape; aluminoxane elec **conductor** adhesive

- cover tape
- IT Aluminoxanes
(Me, for LLDPE preparation; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT Acrylic polymers, uses
Polyurethanes, uses
(adhesive layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT Polyamides, uses
(middle layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT Adhesive tapes
Semiconductor materials
(multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT Polyesters, uses
(outer layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT Polyesters, uses
(outer layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT Electric **conductors**
(powdered tin oxide or zinc oxide; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT Linear low density polyethylenes
(with ethylene, middle layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT 100-42-5D, Styrene, polymers 106-99-0D, 1,3-Butadiene, polymers, uses 9002-86-2, Poly(Vinyl chloride) 24937-78-8, EVA
(adhesive layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT 1291-32-3, Zirconocene dichloride
(for LLDPE preparation; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT 74-85-1D, Ethene, polymer with α -olefins, uses
(middle layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT 9002-88-4, Polyethylene
(middle layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT 25038-59-9, uses
(outer layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT 9003-07-0, Polypropylene
(outer layer; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)
- IT 1314-22-3, Zinc oxide (ZnO₂) 18282-10-5, Tin oxide (SnO₂)
(powdered, elec. **conductors**; multilayer adhesive cover tape for embossed carrier tape for **semiconductors**)

L43 ANSWER 54 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:649605 HCAPLUS

DOCUMENT NUMBER: 125:289390

TITLE: Multilayer system comprising a diamond layer,
an interphase and a metallic substrate
INVENTOR(S): Poncelet, Olivier J. C.; Garenne, Jean-Jacques
E.

PATENT ASSIGNEE(S): Kodak-Pathe, Fr.; Eastman Kodak Company

SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

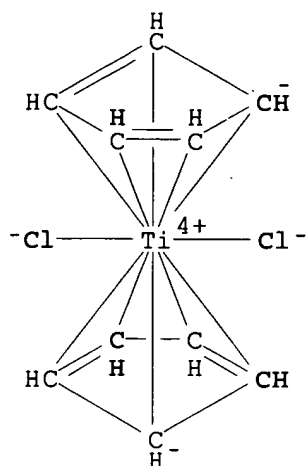
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 730043	A1	19960904	EP 1996-420049	1996 0214
EP 730043	B1	19990421		
R: DE, FR, GB				
FR 2731233	A1	19960906	FR 1995-2728	1995 0303
FR 2731233	B1	19970425		
US 5807433	A	19980915	US 1996-597306	1996 0206
JP 09124395	A2	19970513	JP 1996-70909	1996 0304
PRIORITY APPLN. INFO.:			FR 1995-2728	A 1995 0303

AB The present invention concerns a novel multilayer system comprising a diamond layer, and the method of manufacturing this multilayer system. The invention concerns a multilayer system comprising a metallic substrate, an interphase and a diamond layer, the interphase being composed of the product of thermal decomposition of at least one metallocene compound. This multilayer system, capable of being used as an electrode, has improved adhesion between the substrate and the diamond layer.

IT 1271-19-8P, Dichlorodicyclopentadienyltitanium
 (decomposition product; multilayer system comprising diamond layer on metallic substrate with interphase of)

RN 1271-19-8 HCAPLUS

CN Titanium, dichlorobis(η 5-2,4-cyclopentadien-1-yl)- (9CI) (CA INDEX NAME)



IC ICM C23C016-02
ICS G03C005-31
CC 75-1 (Crystallography and Liquid Crystals)
Section cross-reference(s): 72, 74
IT Anodes
(multilayer system comprising diamond layer, interphase and metallic substrate for electrooxidn. of seasoned photog. baths)
IT Oxidation, electrochemical
(of seasoned photog. baths using multilayer system comprising diamond layer, interphase and metallic substrate as electrode)
IT 1271-19-8P, Dichlorodicyclopentadienyltitanium
(decomposition product; multilayer system comprising diamond layer on metallic substrate with interphase of)

L43 ANSWER 55 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:569301 HCAPLUS

DOCUMENT NUMBER: 125:198078

TITLE: Stretched polypropylene films for electric capacitors

INVENTOR(S): Sugimoto, Ryuichi; Yamada, Takayuki; Ishii, Yukio

PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Japan; Mitsui Chemicals Inc.

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

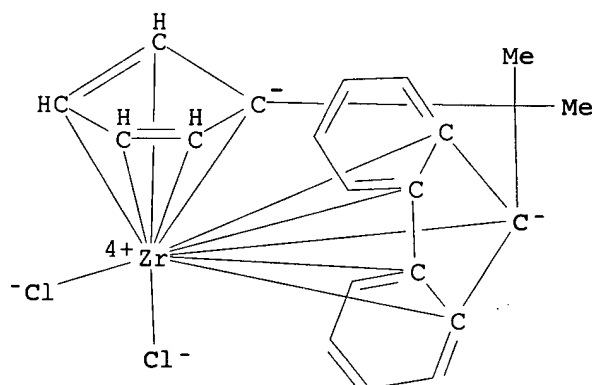
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08156118	A2	19960618	JP 1994-299265	1994 1202
JP 3618130	B2	20050209		
PRIORITY APPLN. INFO.:			JP 1994-299265	

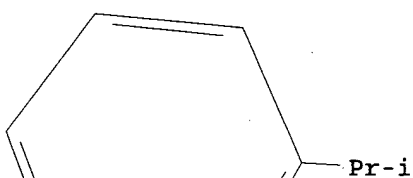
1994
1202

- AB Title films are obtained. by monoaxially or biaxially stretching polypropylene showing isotactic or syndiotactic pentad fraction of boiling-heptane-soluble fraction ≥ 0.5 (determined by ^{13}C -NMR). Thus, propylene was polymerized at 3 kg/cm²-G for 2 h in the presence of Me aluminoxane and dimethylsilylenebis(2-methyl-4-isopropylindenyl)zirconium dichloride to obtain polypropylene (isotactic pentad fraction 0.89), which was blended with BHT and Ca stearate, pelletized at $\leq 230^\circ$, molded into a sheet, and stretched 7-fold in the transverse direction to give a film showing haze 30.0 and dielec. loss tangent 0.001.
- IT 130638-44-7, Isopropylidene(cyclopentadienyl)(9-fluorenyl)zirconium dichloride 167254-77-5
(catalysts, for polymerization; stereoregular polypropylene stretched films for elec. capacitors)
- RN 130638-44-7 HCAPLUS
- CN Zirconium, dichloro[η^1 0-2,4-cyclopentadien-1-ylidene(1-methylethylidene)-9H-fluoren-9-ylidene]- (9CI) (CA INDEX NAME)

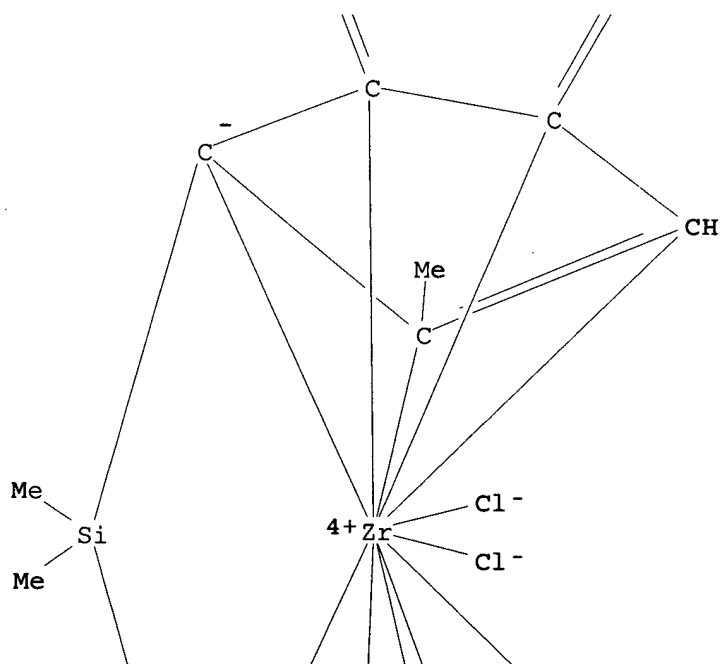


- RN 167254-77-5 HCAPLUS
- CN Zirconium, dichloro[(dimethylsilylene)bis[(1,2,3,3a,7a- η)-2-methyl-4-(1-methylethyl)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

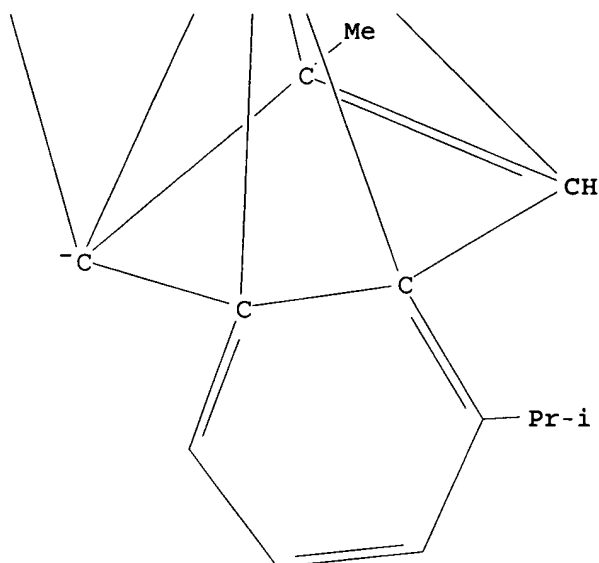
PAGE 1-A



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PAGE 3-A



IC ICM B29D007-00
 ICS B29C055-02; C08J005-18; H01G004-18
 ICI B29K023-00, B29L007-00, B29L031-34
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 IT **130638-44-7**, Isopropylidene(cyclopentadienyl) (9-fluorenyl)zirconium dichloride **167254-77-5**
 (catalysts, for polymerization; stereoregular polypropylene stretched films for elec. capacitors)

L43 ANSWER 56 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:520919 HCAPLUS

DOCUMENT NUMBER: 125:145211

TITLE: Gas-phase process for manufacturing a polyolefin coating, and substrate coated with that coating

INVENTOR(S): Brun, Claude

PATENT ASSIGNEE(S): Elf Atochem S.A., Fr.

SOURCE: Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 719595	A1	19960703	EP 1995-203460	1995 1212
EP 719595	B1	20000301		
R: AT, BE, DE, ES, FR, GB, IT, NL, SE				
FR 2728810	A1	19960705	FR 1994-15852	1994 1229

FR 2728810	B1	19970207			
FR 2728909	A1	19960705	FR 1994-15853		1994 1229
FR 2728909	B1	19970207			
AT 189979	E	20000315	AT 1995-203460		1995 1212
ES 2144569	T3	20000616	ES 1995-203460		1995 1212
CA 2165917	AA	19960630	CA 1995-2165917		1995 1221
NO 9505213	A	19960701	NO 1995-5213		1995 1221
NO 311664	B1	20020102			
FI 9506293	A	19960630	FI 1995-6293		1995 1228
JP 08229505	A2	19960910	JP 1995-343721		1995 1228
CN 1131690	A	19960925	CN 1995-120190		1995 1228
CN 1093156	B	20021023			
US 5856019	A	19990105	US 1995-580683		1995 1229
PRIORITY APPLN. INFO.:			FR 1994-15852	A	1994 1229
			FR 1994-15853	A	1994 1229

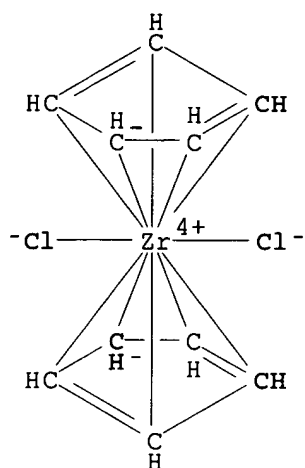
OTHER SOURCE(S): MARPAT 125:145211

AB The title process comprises contacting a substrate with a liquid composition containing a catalyst for polymerization of olefins, separating the substrate from the liquid composition, and gas-phase polymerizing olefins on the surface. The process is useful in coating internal parts of chemical reactors, especially for polymerization. The interior of a steel reactor was treated with a solution of Me aluminoxane and bis(cyclopentadienyl)zirconium dichloride, then pressurized with ethylene, giving a coated reactor.

IT 1291-32-3, Bis(cyclopentadienyl)zirconium dichloride 121009-93-6 (gas-phase process for manufacturing a polyolefin coating, and substrate coated with that coating)

RN 1291-32-3 HCAPLUS

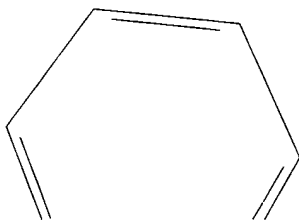
CN Zirconium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA INDEX NAME)



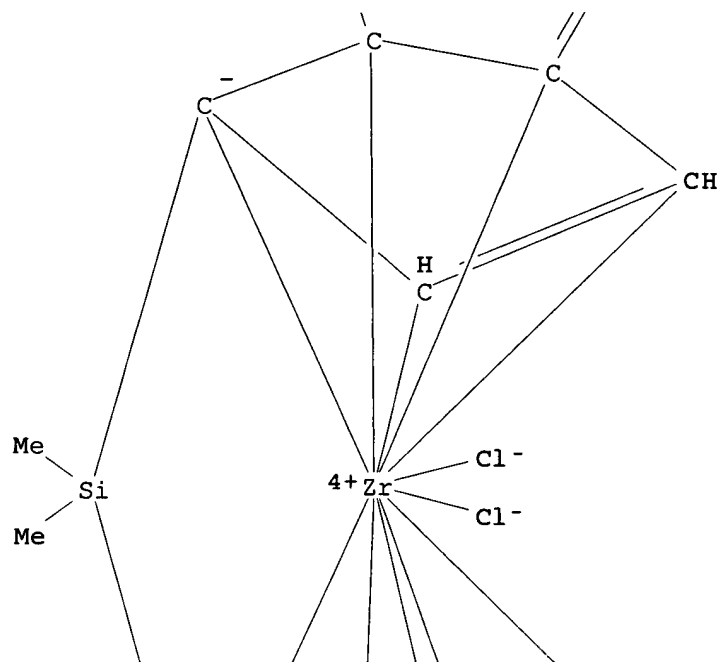
RN 121009-93-6 HCAPLUS

CN Zirconium, dichloro[rel-(1R,1'R)-(dimethylsilylene)bis[(1,2,3,3a,7a-η)-1H-inden-1-ylidene]]- (9CI) (CA INDEX NAME)

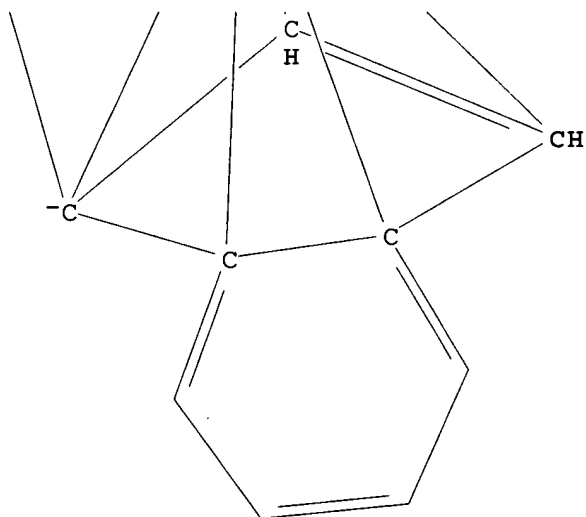
PAGE 1-A



PAGE 2-A



PAGE 3-A



IC ICM B05D007-24
 ICS B05D003-10; C08F010-00; B01J019-02; C08F002-00; C09D123-04;
 C09D123-02; C09D123-10
 CC 42-2 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 35, 67
 IT 1116-73-0, Trihexylaluminum 1291-32-3,
 Bis(cyclopentadienyl)zirconium dichloride 121009-93-6
 (gas-phase process for manufacturing a polyolefin coating, and

substrate coated with that coating)

L43 ANSWER 57 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1996:178082 HCAPLUS
 Correction of: 1996:71228
 DOCUMENT NUMBER: 124:204578
 Correction of: 124:89718
 TITLE: Ethylene- α -olefin copolymer laminate for
 balloon fabrication
 INVENTOR(S): Tsucha, Hirotaka
 PATENT ASSIGNEE(S): Dai Nippon Printing Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07284570	A2	19951031	JP 1994-78719	1994 0418
JP 3361878	B2	20030107	JP 1994-78719	1994 0418

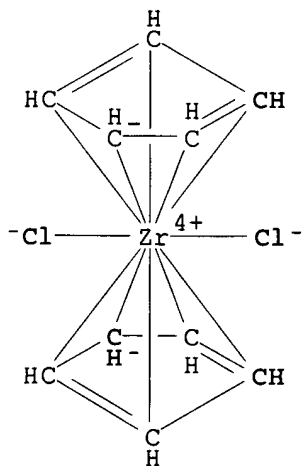
PRIORITY APPLN. INFO.: JP 1994-78719

AB The laminate, with good heat-sealing properties, comprises an ethylene- α -olefin copolymer (e.g., ethylene-1-hexene copolymer) which is prepared with a single-site polymerization catalyst and a gas-impermeable layer (e.g., Al).

IT 1291-32-3, Zirconocene dichloride
 (ethylene- α -olefin copolymer laminate for balloon fabrication)

RN 1291-32-3 HCAPLUS

CN Zirconium, dichlorobis(η 5-2,4-cyclopentadien-1-yl) - (9CI) (CA INDEX NAME)



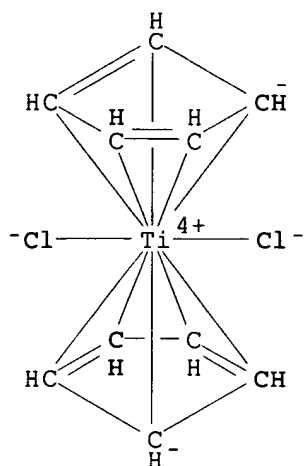
IC ICM A63H027-10
ICA B32B015-08
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37
IT 1291-32-3, Zirconocene dichloride
(ethylene- α -olefin copolymer laminate for balloon
fabrication)

L43 ANSWER 58 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:482116 HCAPLUS
DOCUMENT NUMBER: 123:73513
TITLE: Anion selective polymeric membrane electrodes
based on metallocenes
AUTHOR(S): Hisamoto, Hideaki; Siswanta, Dwi; Nishihara,
Hiroshi; Suzuki, Koji
CORPORATE SOURCE: Department of Applied Chemistry, Keio
University, 3-14-1 Hiyoshi, Kohoku-ku,
Yokohama, 223, Japan
SOURCE: Analytica Chimica Acta (1995), 304(2), 171-6
CODEN: ACACAM; ISSN: 0003-2670
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Seven types of metallocenes (bis-cyclopentadienyl compds.) were
used as anion ionophores for polymeric membrane electrodes and
their anion selectivities were examined. The electrodes based on
metallocenes exhibited different selectivity behavior compared
with the electrode using a classical anion exchanger such as
tetraalkyl ammonium. The selectivity for tetraalkyl ammonium
simply obeys the lipophilicity of anions, specifically, hafnocene
dichloride exhibited a highly specific response to anions that
have π -electrons such as the salicylate ion. This electrode
demonstrated a Nernstian response to the salicylate anion ranging
from $1 + 10^{-3}$ to $1 + 10^{-1}$ M in a buffered solution (0.05M
Tris-H₂SO₄) adjusted to a pH of 7.4.

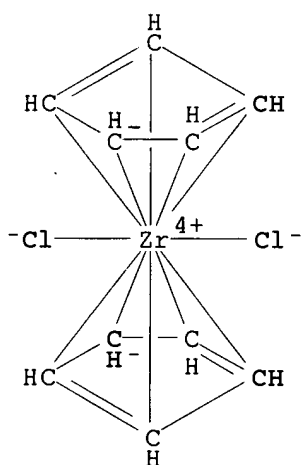
IT 1271-19-8, Titanocene dichloride 1291-32-3,
Zirconocene dichloride 12116-66-4, Hafnocene dichloride
(anion selective polymeric membrane electrodes based on
metallocenes)

RN 1271-19-8 HCAPLUS
CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl)- (9CI) (CA
INDEX NAME)



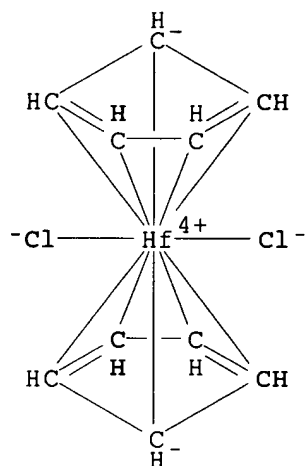
RN 1291-32-3 HCAPLUS

CN Zirconium, dichlorobis(η5-2,4-cyclopentadien-1-yl) - (9CI) (CA
INDEX NAME)



RN 12116-66-4 HCAPLUS

CN Hafnium, dichlorobis(η5-2,4-cyclopentadien-1-yl) - (9CI) (CA
INDEX NAME)



CC 79-2 (Inorganic Analytical Chemistry)

Section cross-reference(s): 29, 72

IT 102-54-5, Ferrocene 1271-19-8, Titanocene dichloride
 1271-28-9, Nickelocene 1277-43-6, Cobaltocene 1291-32-3
 , Zirconocene dichloride 5137-55-3, Trioctylmethyl ammonium
 chloride 12116-66-4, Hafnocene dichloride 12793-14-5,
 Niobocene dichloride
 (anion selective polymeric membrane electrodes based on
 metallocenes)

L43 ANSWER 59 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:469997 HCAPLUS

DOCUMENT NUMBER: 122:276406

TITLE: Investigation of the electrochemical
 properties of substituted titanocene
 dichlorides

AUTHOR(S): Johnston, Randy F.; Borjas, Ricardo E.;
 Furilla, Joan L.

CORPORATE SOURCE: Dep. Chem., Univ. Memphis, Memphis, TN, 38152,
 USA

SOURCE: Electrochimica Acta (1995), 40(4), 473-7
 CODEN: ELCAAV; ISSN: 0013-4686

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

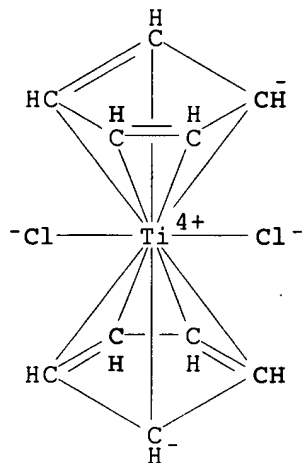
AB The electrochem. properties of $(\eta^5\text{-C}_5\text{Me}_5)_2\text{TiCl}_2$,
 $(\eta^5\text{-C}_5\text{H}_4\text{Me})_2\text{TiCl}_2$, $(\eta^5\text{-C}_5\text{H}_4\text{Cl})_2\text{TiCl}_2$, $(\eta^5\text{-C}_5\text{H}_4\text{CO}_2\text{Me})_2\text{TiCl}_2$, and $(\eta^5\text{-C}_5\text{H}_5)_2\text{TiCl}_2$ were examined in THF. All
 five species undergo two reduction processes. The 1st reduction processes
 of $(\eta^5\text{-C}_5\text{H}_4\text{Me})_2\text{TiCl}_2$, $(\eta^5\text{-C}_5\text{H}_4\text{Cl})_2\text{TiCl}_2$ and
 $(\eta^5\text{-C}_5\text{H}_5)_2\text{TiCl}_2$ were characterized as 1-electron reversible
 redns. The other two compds. have 1-electron reduction followed by
 the loss of a chloride in a slow chemical reaction (i.e. EC
 mechanism). Steric bulk of the pentamethyl derivative and the
 possibility of chelation in the carbomethoxy derivative enhance the
 loss of a chloride ion. An $E_{1/2}$ range of 550 mV was obtained for
 the five titanocenes and $E_{1/2}$ decreased to more neg. values in the
 order: $\text{C}_5\text{H}_4\text{CO}_2\text{Me} > \text{C}_5\text{H}_4\text{Cl} > \text{C}_5\text{H}_5 > \text{C}_5\text{H}_4\text{Me} > \text{C}_5\text{Me}_5$.

IT 1271-19-8, Bis(η^5 -cyclopentadienyl)titanium dichloride
 1282-40-2, Bis(η^5 -methylcyclopentadienyl)titanium

dichloride 11136-36-0, Bis(η^5 -pentamethylcyclopentadienyl)titanium dichloride 88242-71-1, Bis(η^5 -carbomethoxycyclopentadienyl)titanium dichloride 94890-70-7, Bis(η^5 -chlorocyclopentadienyl)titanium dichloride (electrochem. reduction in THF)

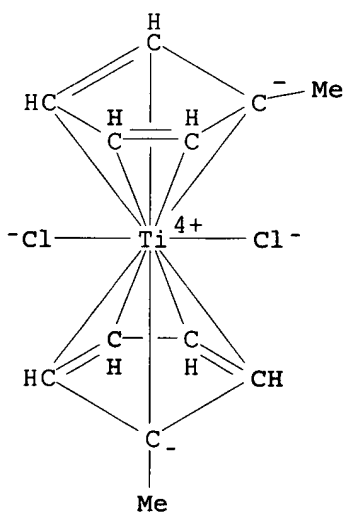
RN 1271-19-8 HCAPLUS

CN Titanium, dichlorobis(η^5 -2,4-cyclopentadien-1-yl) - (9CI) (CA INDEX NAME)



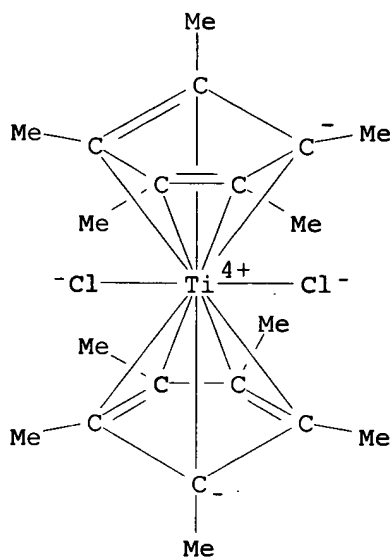
RN 1282-40-2 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5- η)-1-methyl-2,4-cyclopentadien-1-yl] - (9CI) (CA INDEX NAME)



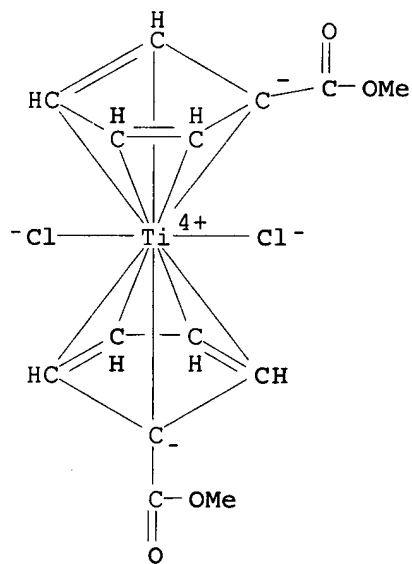
RN 11136-36-0 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl] - (9CI) (CA INDEX NAME)



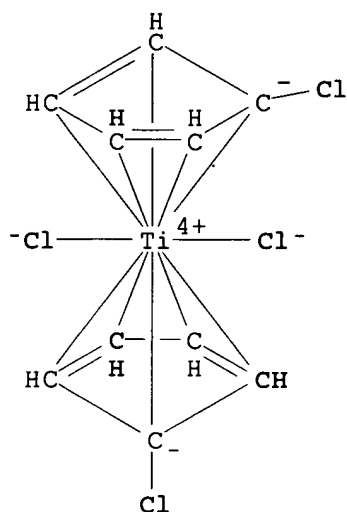
RN 88242-71-1 HCAPLUS

CN Titanium, dichlorobis[(1,2,3,4,5-η)-1-(methoxycarbonyl)-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



RN 94890-70-7 HCAPLUS

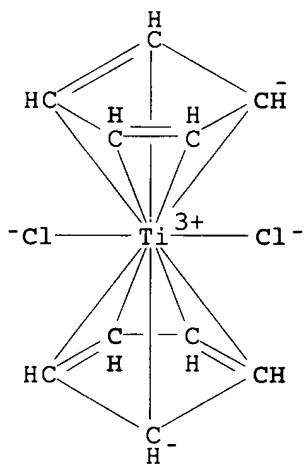
CN Titanium, dichlorobis(η⁵-1-chloro-2,4-cyclopentadien-1-yl)- (9CI) (CA INDEX NAME)



IT 75699-41-1, Dichlorobis(η^5 -cyclopentadienyl)titanate(1-)
) 162763-47-5 162763-48-6
 (electrochem. reductive formation in THF)

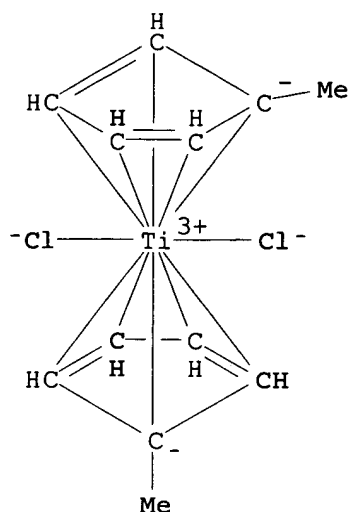
RN 75699-41-1 HCAPLUS

CN Titanate(1-), dichlorobis(η^5 -2,4-cyclopentadien-1-yl) - (9CI)
 (CA INDEX NAME)



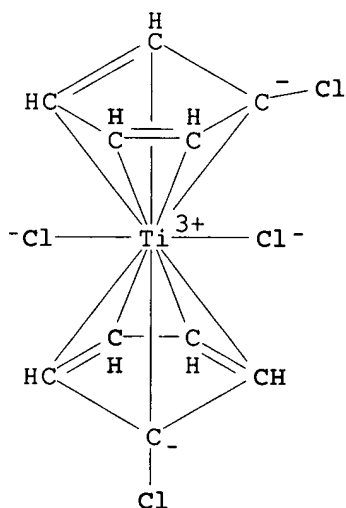
RN 162763-47-5 HCAPLUS

CN Titanate(1-), dichlorobis[(1,2,3,4,5- η)-1-methyl-2,4-cyclopentadien-1-yl] - (9CI) (CA INDEX NAME)



RN 162763-48-6 HCAPLUS

CN Titanate(1-), dichlorobis(η^5 -1-chloro-2,4-cyclopentadien-1-yl) -
(9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)

Section cross-reference(s): 29

IT 1271-19-8, Bis(η^5 -cyclopentadienyl)titanium dichloride

1282-40-2, Bis(η^5 -methylcyclopentadienyl)titanium

dichloride 11136-36-0, Bis(η^5 -

pentamethylcyclopentadienyl)titanium dichloride 88242-71-1

, Bis(η^5 -carbomethoxycyclopentadienyl)titanium dichloride

94890-70-7, Bis(η^5 -chlorocyclopentadienyl)titanium
dichloride

(electrochem. reduction in THF)

IT 75699-41-1, Dichlorobis(η^5 -cyclopentadienyl)titanate(1-

) 162763-47-5 162763-48-6

(electrochem. reductive formation in THF)

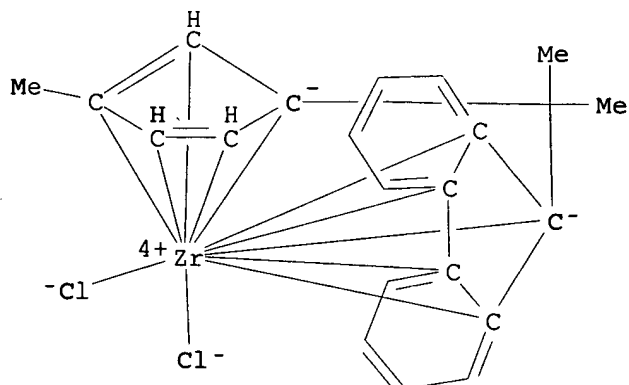
L43 ANSWER 60 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN
 ✓ ACCESSION NUMBER: 1995:451760 HCAPLUS
 DOCUMENT NUMBER: 122:215545
 TITLE: Alternating cycloolefin copolymer molding
 material, its preparation and use
 INVENTOR(S): Weller, Thomas; Brekner, Michael-Joachim;
 Osan, Frank
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Eur. Pat. Appl., 13 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
EP 610813	A1	19940817	EP 1994-101637	1994 0203
EP 610813	B1	19980506		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
DE 4304311	A1	19940818	DE 1993-4304311	1993 0212
DE 4304311	C2	19980806		
AT 165848	E	19980515	AT 1994-101637	1994 0203
CA 2115194	AA	19940813	CA 1994-2115194	1994 0208
JP 06336508	A2	19941206	JP 1994-16151	1994 0210
US 5498677	A	19960312	US 1994-195076	1994 0214
PRIORITY APPLN. INFO.:			DE 1993-4304311	A 1993 0212

AB The polymers, possessing crystallinity at 210-320°, are typically based on C₂H₄ and either norbornene or tetracyclododecene, are obtained by copolymn. in the presence of a metallocene catalyst containing an aluminoxane, and may be used as substrates for multilayer recording media. Because of their transparency, the non-ring-opened copolymers are suited for optical or magneto-optical devices. In an example, C₂H₄ and norbornene were copolymerized in the presence of a fluorenylcyclopentadienylzirconium catalyst containing Me aluminoxane to give a 50:50 product which showed good solvent resistance.

IT 133190-48-4
 (polymerization catalyst; preparation of cycloolefin copolymers for recording media)

RN 133190-48-4 HCAPLUS
 CN Zirconium, dichloro[η¹⁰-9H-fluoren-9-ylidene(1-methylethylidene)(3-methyl-2,4-cyclopentadien-1-ylidene)]- (9CI)
 (CA INDEX NAME)



IC ICM C08F232-08
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38
 IT 133190-48-4
 (polymerization catalyst; preparation of cycloolefin copolymers for recording media)

L43 ANSWER 61 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:126897 HCAPLUS

DOCUMENT NUMBER: 122:21553

TITLE: Formation of metal/ferroelectric/insulator/
semiconductor structure with a cerium
 oxide (CeO₂) buffer layer

AUTHOR(S): Hirai, Tadahiko; Teramoto, Kazuhiro; Nishi,
 Takeharu; Goto, Takaaki; Tarui, Yasuo

CORPORATE SOURCE: LSI Laboratories, Asahi Chemical Industry Co.,
 Ltd., Shizuoka, 416, Japan

SOURCE: Japanese Journal of Applied Physics, Part 1:
 Regular Papers, Short Notes & Review Papers
 (1994), 33(9B), 5219-22
 CODEN: JAPNDE; ISSN: 0021-4922

DOCUMENT TYPE: Journal

LANGUAGE: English

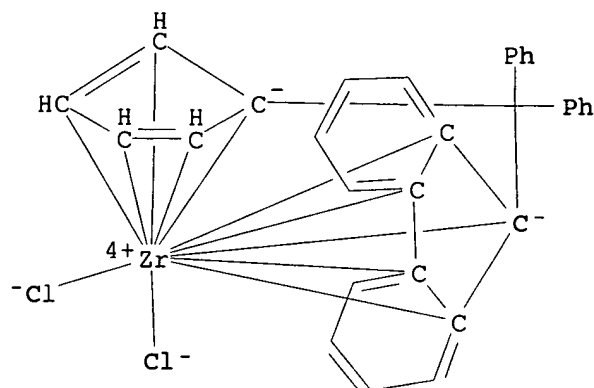
AB Exptl. results derived from the capacitance vs. voltage (C-V)
 characteristics of metal/ferroelec./insulator/
semiconductor (MFIS) structures are described. PbTiO₃
 ferroelec. films of 600 Å thickness were grown on a
 CeO₂/Si(100) substrate by digital CVD deposition. As the buffer
 layer between the ferroelec. and Si substrate, 150-Å-thick
 CeO₂ intermediate epitaxial layers were grown on a (100) silicon
 substrate by vacuum evaporation. The d. of surface states at the
 CeO₂/Si(100) interface was estimated from the C-V characteristics of
 Al/CeO₂/Si(100) samples to be .apprx.1011/cm² eV. Epitaxial CeO₂
 films on Si(100) would therefore be expected to function as the
 gate oxide for MFS-FET's. Further, the MFIS structure has
 ferroelec. switching properties, as demonstrated by the roughly
 I-V threshold hysteresis in the C-V characteristics. This
 structure is thus a first step towards high-performance
 MFIS-FET's.

IT 132510-07-7

(preparation of polycyclic olefin copolymers in presence of)

RN 132510-07-7 HCAPLUS

CN Zirconium, dichloro[$\eta^{10-2,4}$ -cyclopentadien-1-ylidene(diphenylmethylene)-9H-fluoren-9-ylidene] - (9CI) (CA INDEX NAME)



CC 76-8 (Electric Phenomena)
 IT 7440-21-3, Silicon 12060-00-3, Lead titanium oxide (PbTiO₃)
 (formation of metal/ferroelec./insulator/**semiconductor**
 structure with CeO₂ buffer layer)
 IT 1306-38-3, Cerium oxide (CeO₂)
 (formation of metal/ferroelec./insulator/**semiconductor**
 structure with CeO₂ buffer layer)
 IT 132510-07-7
 (preparation of polycyclic olefin copolymers in presence of)

L43 ANSWER 62 OF 62 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:448783 HCAPLUS

DOCUMENT NUMBER: 117:48783

TITLE: σ -Bond metathesis reactions for d0
 metal-silicon bonds that produce zirconocene
 and hafnocene hydrosilyl complexes
 AUTHOR(S): Woo, Hee Gweon; Heyn, Richard H.; Tilley, T.
 D.

CORPORATE SOURCE: Dep. Chem., Univ. California, La Jolla, CA,
 92093-0506, USA

SOURCE: Journal of the American Chemical Society
 (1992), 114(14), 5698-707
 CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

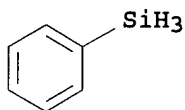
LANGUAGE: English

OTHER SOURCE(S): CASREACT 117:48783

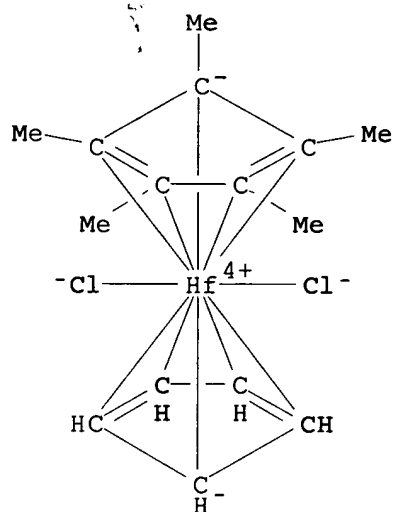
AB Reactions of zirconocene and hafnocene silyl derivs.
 CpCp'M(SiR₃)Cl (Cp = η^5 -C₅H₅; Cp' = Cp, Cp*, Cp* =
 η^5 -C₅Me₅; M = Zr, Hf; R = Me, SiMe₃) with hydrosilanes have
 been investigated. The observed products depend on the nature of the
 starting materials, since in some cases the initial σ -bond
 metathesis products react further via dehydrocoupling processes.
 For example, Cp₂Zr(SiMe₃)Cl reacts with PhSiH₃ to give the direct
 products Me₃SiH and Cp₂Zr(SiH₂Ph)Cl, which then combines rapidly
 with PhSiH₃ to produce [Cp₂ZrHCl]_n, PhH₂SiSiH₂Ph, and
 PhH₂SiSiHPhSiH₂Ph. Thus, hydrosilyl complexes obtained from such
 reactions can be contaminated by significant quantities of the
 corresponding hydride. The σ -bond metathesis reactions of
 CpCp'Hf[Si(SiMe₃)₃]Cl (2) with hydrosilanes RR'SiH₂ cleanly give

the isolable metal silyl derivs. $\text{CpCp}^*\text{Hf}(\text{SiHRR}')\text{Cl}$ [$\text{SiHRR}' = \text{SiH}_2\text{Ph}$ (8), $\text{SiH}_2(\text{p-Tol})$, $\text{SiH}_2(\text{p-MeOC}_6\text{H}_4)$, $\text{SiH}_2(\text{p-FC}_6\text{H}_4)$, SiH_2Mes ($\text{Mes} = 2,4,6\text{-Me}_3\text{C}_6\text{H}_2$), $\text{SiH}_2\text{CH}_2\text{Ph}$, SiH_2Cy ($\text{Cy} = \text{cyclohexyl}$), SiHPh_2 , SiHMePh (as a 7:5 mixture of diastereomers), and $\text{SiHPhSiH}_2\text{Ph}$ (as a mixture of diastereomers)]. In general, primary or secondary silanes will undergo such reactions, provided that a less sterically hindered silyl ligand is introduced at hafnium. Tertiary silanes such as Me_3SiH and Et_3SiH do not react under comparable conditions. Reactions of 2 with bis(silyl) compds. have provided the bimetallic complex 1,4- $\text{CpCp}^*(\text{Cl})\text{HfSiH}_2\text{C}_6\text{H}_4\text{SiH}_2\text{Hf}(\text{Cl})\text{CpCp}^*$ and the thiophene derivative 2,5- $\text{CpCp}^*(\text{Cl})\text{HfSiH}_2(\text{C}_4\text{H}_2\text{S})\text{SiH}_2\text{Hf}(\text{Cl})\text{CpCp}^*$. The thermal (dark) reaction of 2 with PhSiH_3 obeys a second-order rate law, rate = $k[2][\text{PhSiH}_3]$, with $\Delta H_{\text{dbldag.}} = 16.4$ (7) kcal mol⁻¹, $\Delta S_{\text{dbldag.}} = -27$ (2) eu, and $k_{\text{H}}/k_{\text{D}}$ (70°) = 2.5 (1). These parameters suggest that the above σ -bond metathesis reactions involve 4-center transition states similar to those that have been proposed for hydrocarbon activation reactions of d⁰ metal complexes. Visible light accelerates the reactions of 2 with hydrosilanes, via excitation of a low-intensity transition at 405 nm ($\epsilon = 445$ dm³ mol⁻¹ cm⁻¹), which appears to have considerable silyl-to-metal charge-transfer character. The quantum yield for the reaction of 2 with 1 or 20 equiv of PhSiH_3 is 1.0 ± 0.1 . Use of radical traps failed to provide evidence for intermediate radicals in this **photochem.** Possible mechanisms for the observed **photochem.** conversions are discussed. Reactions of 2 with alkoxyhydrosilanes $\text{HSi}(\text{OMe})_2\text{R}'$ provide routes to the new complexes $\text{CpCp}^*\text{Hf}(\text{SiH}_2\text{Me})\text{Cl}$ ($\text{R}' = \text{Me}$) and $\text{CpCp}^*\text{Hf}(\text{SiH}_3)\text{Cl}$ ($\text{R}' = \text{OMe}$). These reactions appear to proceed via initial, metal catalyzed redistribution of the alkoxyhydrosilanes (e.g., $\text{HSiMe}(\text{OMe})_2$ is redistributed to $\text{MeSi}(\text{OMe})_3$ and MeSiH_3), followed by trapping of the new hydrosilane by 2. The Hf-Si distance observed for 2 (2.881 (4) and 2.888 (4) Å for the two independent mols.) is much longer than that observed for 8 (2.729 (3) Å), apparently because of greater ligand-ligand repulsion in 2.

IT 694-53-1, Phenylsilane
(dehydrocoupling reaction of, with silylhafnocene complex,
kinetics of)
RN 694-53-1 HCAPLUS
CN Silane, phenyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT 87050-25-7P
(formation and silylation of)
RN 87050-25-7 HCAPLUS
CN Hafnium, dichloro(η^5 -2,4-cyclopentadien-1-yl)[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)

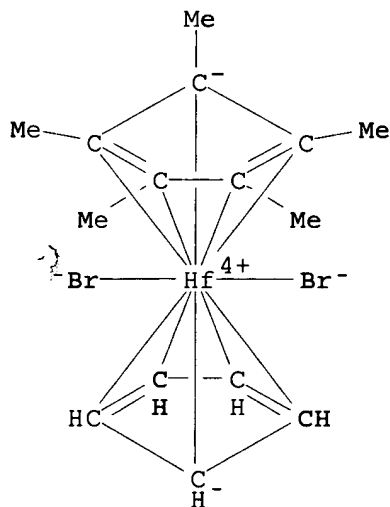


IT 134110-27-3P 142131-01-9P

(formation of, by reaction of tert-Bu bromide with
silylzirconocene complex)

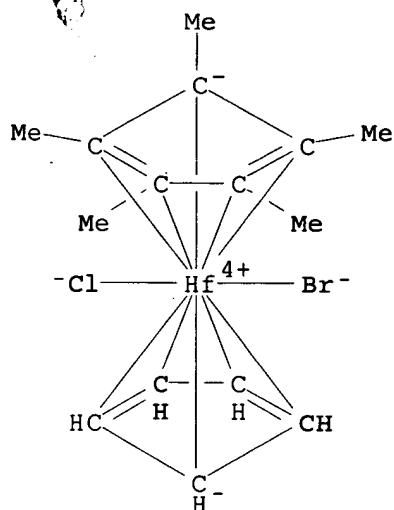
RN 134110-27-3 HCAPLUS

CN Hafnium, dibromo(η^5 -2,4-cyclopentadien-1-yl) [(1,2,3,4,5- η)-
1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX
NAME)



RN 142131-01-9 HCAPLUS

CN Hafnium, bromochloro(η^5 -2,4-cyclopentadien-1-yl) [(1,2,3,4,5- η)-
1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA
INDEX NAME)



CC 29-10 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 22, 75

IT 694-53-1, Phenylsilane

(dehydrocoupling reaction of, with silylhafnocene complex,
kinetics of)

IT 87050-25-7P

(formation and silylation of)

IT 75-28-5P 5089-31-6P 134110-27-3P 142131-01-9P

(formation of, by reaction of tert-Bu bromide with
silylzirconocene complex)